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FIFTH ANNUAL REPORT

Maryland State College of Agriculture

EXTENSION SERVICE

FOR THE

YEAR ENDING JUNE 30, 1919

Co-Operative Extension Work in Agriculture and Home Economics, Extension Service, Maryland State College of Agriculture and U. S. Dept. of Agriculture Co-Operating

T. B. SYMONS, Director

[Distributed in furtherance of the Acts of Congress of May 8th and June 30th, 1914]

Maryland State College of Agriculture

EXTENSION SERVICE

BOARD OF TRUSTEES

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F. W. OLDENBURG, Specialist in Agronomy.
S. S. BUCKLEY, Specialist in Animal Husbandry.
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VENIA M. KELLAR, State Home Demonstration Agent.
ADICE S. JONES, Assistant in Girls' Club Work.
MARGARET SCHMIDT, District Agent in Home Economics Work.
MABEL STEPHENSON, District Agent in Home Economics Work.
OLA M. DAY, District Agent in Home Economics Work.

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K. C. Cole	Allegany	Cumberland
G. W. Norris	Anne Arundel	Annapolis
J. F. Hudson	Baltimore	Towson
J. H. Drury	Calvert	Chaney
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F. W. Fuller	Carroll	Westminster
J. H. Knode	Cecil	Elkton
J. P. Burdette	Charles	La Plata
J. F. Davis	Dorchester	Cambridge
P. A. Hauver	Frederick	Frederick
J. A. Towler	Garrett	Oakland
B. B. Derrick	Harford	Belair
R. L. Post	Howard	Ellicott City
H. B. Derrick	Kent	Chestertown
F. J. Van Hoesen	Montgomery	Rockville
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S. E. Day	Washington	Hagerstown
G. R. Cobb	Wicomico	Salisbury
E. I. Oswald	Worcester	Snow Hill
J. F. Armstrong (col.)	Southern Maryland	Seat Pleasant
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T. B. SYMONS, Director

[Distributed in furtherance of the Acts of Congress of May 8th and June 30th, 1914]

LETTERS OF TRANSMITTAL

DR. A. F. WOODS,
President:

I have the honor to submit herewith the Fifth Annual Report on the work of the Extension Service of the Maryland State College of Agriculture, in co-operation with the U. S. Department of Agriculture, for the fiscal year ending June 30, 1919.

Respectfully submitted,

THOMAS B. SYMONS,
Director, Extension Service.

College Park, Md.,
January 1, 1920.

HON. S. M. SHOEMAKER,
Chairman, State Board of Agriculture:

In accordance with the requirements of the Act of Congress, approved May 8, 1914, and known as the Smith-Lever Act, I have the honor to transmit herewith, for submission to the Governor of the State, the Fifth Annual Report of the Extension Service of the Maryland State College of Agriculture, in co-operation with the U. S. Department of Agriculture, for the fiscal year ending June 30, 1919.

Respectfully submitted,

A. F. WOODS,
President.

College Park, Md.,
January 1, 1920.

To His Excellency, ALBERT C. RITCHIE,
Governor of Maryland:

I have the honor to transmit herewith the Fifth Annual Report of the Extension Service of the Maryland State College of Agriculture, in co-operation with the U. S. Department of Agriculture, submitted to me through the President of the College.

Respectfully submitted,

S. M. SHOEMAKER,
Chairman, State Board of Agriculture.

Baltimore, Md.,
January 1, 1920.

FIFTH ANNUAL REPORT

OF THE

Maryland State College of Agriculture

EXTENSION SERVICE

FOR THE YEAR ENDING JUNE 30th, 1919.

By THOMAS B. SYMONS, *Director.*

INTRODUCTION.

The light of a new day in the agricultural world is gradually enveloping the horizon of rural Maryland. Rapid strides have been made during the past historic year in rehabilitating the agricultural industry of this nation and this State, and restoring it to its proper place among the leading industries of the country. The outstanding importance of the industry, emphasized during the war, has been intensified during the present period of unrest following the signing of the armistice. The high cost of food during this period has directed the attention of the most ignorant, as well as the most unconcerned among the general public, to the necessity of realizing the welfare of agriculture as pre-eminent in the scheme of a democratic government and vitally necessary in restoring the country to a satisfactory basis.

The general public is learning a lesson, never, we trust, to be forgotten—that the farmer must be given the same consideration and his business the same recognition as has been accorded to other industries. Agriculture asks only the square deal and proper opportunity to serve the nation in proportion to the dignity and importance of the industry. The future welfare of the country depends upon the proper development of our agricultural resources and the maintenance of proper standards in rural life. The hope of any nation depends upon a prosperous and satisfied rural population.

The work of the Extension Service aims to promote the economic, educational, social and moral conditions of our rural people. The past year has marked the beginning of our reconstruction period, following the world war. Of necessity, it has been a transition period, a period of unrest and hesitancy and a period through which

agriculture has tried to maintain the bigger and broader outlook upon the world that came to it during the trying world struggle.

Maryland farmers have maintained their production records, so that the State has produced as much food during the past season as during any year of the war period. This has not been accomplished without difficulties, but it is gratifying to state—and a tribute to the industry—that the word "strike" is not in the farmers' vocabulary, to be used as a threat to obtain a commercial benefit.

In some parts of our State, the past season has been the most disastrous, on account of unfavorable weather conditions, that the farmers have experienced for many years. Yet, on the whole, the industry has been able to maintain its records in production.

Crop Records.

The following are the approximate estimates of the acreage and yields of our major crops and number of live stock during 1919, as compared with 1918, as given by the Bureau of Crop Estimates, U. S. Department of Agriculture:

		1918.	1919.		
CORN	Acreage	686,000	693,000	Yield per acre (bu.)	41
	Bushels	24,010,000	28,413,000	Price per bu.	$ 1.40
	Value	$32,414,000	$39,778,000	Value per acre	57.40
WHEAT	Acreage	732,000	790,000	Yield per acre (bu.)	13.5
	Bushels	11,346,000	10,665,000	Price per bu.	$ 2.15
	Value	$24,848,000	$22,930,000	Value per acre	29.02
OATS	Acreage	60,000	65,000	Yield per acre (bu.)	28
	Bushels	1,980,000	1,820,000	Price per bu.	$ .82
	Value	$1,703,000	$1,492,000	Value per acre	22.96
RYE	Acreage	30,000	30,000	Yield per acre (bu.)	14
	Bushels	450,000	420,000	Price per bu.	$ 1.63
	Value	$765,000	$685,000	Value per acre	22.82
BUCK-WHEAT	Acreage	14,000	14,000	Yield per acre (bu.)	23
	Bushels	280,000	322,000	Price per bu.	$ 1.55
	Value	$462,000	$499,000	Value per acre	35.65
BARLEY	Acreage	6,000	6,000	Yield per acre (bu.)	33
	Bushels	186,000	198,000	Price per bu.	$ 1.23
	Value	$223,000	$244,000	Value per acre	40.59
IRISH POTATOES	Acreage	50,000	55,000	Yield per acre (bu.)	94
	Bushels	4,000,000	5,170,000	Price per bu.	$ 1.30
	Value	$4,800,000	$6,721,000	Value per acre	122.20
SWEET POTATOES	Acreage	11,000	12,000	Yield per acre (bu.)	140
	Bushels	1,430,000	1,680,000	Price per bu.	$ 1.33
	Value	$2,121,000	$2,234,000	Value per acre	186.00

HAY	Acreage	473,000	450,000	Yield per acre (tons)	1.40
	Tons	639,000	630,000	Price per ton	$24.00
	Value	$17,125,000	$15,120,000	Value per acre	33.60
TOBACCO	Acreage	30,000	29,000	Yield per acre (lbs.)	675
	Pounds	23,738,000	19,575,000	Price per pound	$ .30
	Value	$7,121,000	$5,872,000	Value per acre	202.50
APPLES	Bushels	2,365,000	1,944,000	Commercial (bbls.)	266,000
	Value	$2,128,500	$3,553,600	Quality (per cent.)	79
PEACHES	Bushels	600,000	731,000		
	Value	$1,200,000	$1,242,700		
PEARS	Bushels	455,000	420,000		
	Value	$455,000	$546,000		
TOMATOES	Acreage	100,000	90,000		
	Tons	300,000	200,000		
	Value	$9,000,000	$8,000,000		

Livestock.

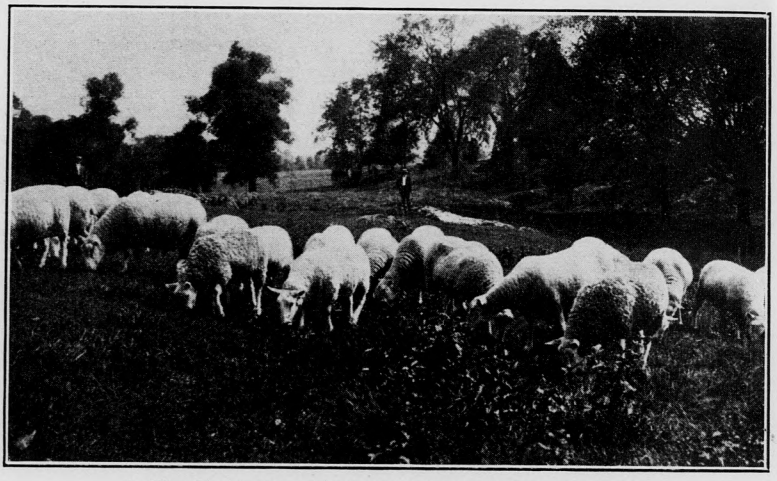
		1918.	1919.
HORSES	Number	171,000	168,000
	Value	$17,784,000	$17,136,000
MULES	Number	25,000	25,000
	Value	$3,325,000	$3,350,000
MILCH COWS	Number	177,000	180,000
	Value	$14,160,000	$16,020,000
OTHER CATTLE	Number	135,000	138,000
	Value	$6,156,000	$6,955,000
SHEEP	Number	246,000	250,000
	Value	$2,780,000	$2,725,000
SWINE	Number	427,000	461,000
	Value	$8,967,000	$8,759,000

The above is rather a remarkable record, considering the increased acreage that was secured in our main food crops in 1918 over 1917. Further, when we consider the extreme shortage of farm labor on account of the State's proximity to industrial centers, greater emphasis should properly be given to the patriotic response of our farmers to do their utmost to meet the world's demand for food during this unsettled period.

The High Cost of Living.

Much has been said and written during the past year concerning the high cost of living. Much of the discussion has centered around the agricultural industry. It has been difficult for the general public to realize the conditions surrounding the agricultural

industry or to appreciate the relative increase in materials and labor that have entered into production costs. It must be accepted that the high cost of living is due for the most part to unavoidable war waste and increase of money and credit. The reduction in the purchasing power of the dollar affects all industries alike. After all, it must be realized that money values are based upon purchasing power. When the purchasing power of money is reduced, the seeming cost of the products increases. It is acknowledged that the dollar is worth approximately only 50 per cent. of its former value in purchasing power, and consequently the value of farm products has correspondingly increased in like proportion.



A Flock of Pure-Bred Cheviots on the Farm of Dr. C. H. Conley, Frederick.

The product is more valuable than the dollar today, and will continue to be as long as the supply of world goods is less than the demand, or the present inflation in the supply of dollars of the world's money remains.

It is clear to the unprejudiced mind that the increased cost of food products is not due to profiteering on the part of the farmer. It is equally true that strikes and lockouts, reduction of hours of labor per day and days per week in industry is going to increase this burden on all the people, and that the only remedy is to produce more goods, to work longer hours and to promote co-operation rather than antagonism between producer, distributor and consumer.

As pointed out above, the farmers of Maryland are doing their part to increase production. It remains for other industries to do likewise before normal conditions can be restored.

Marketing.

During this period of high prices of food products, there has been much discussion and agitation concerning our marketing methods. The general public has believed that profiteering has been practiced by the farmers, middlemen and retailers. While the farmers, knowing that they have not received undue profits above costs, in order to refute such charges of the public, have sought to inquire into the costs of distribution, in order to reduce the spread between the prices received by the producer and the prices paid by the consumer.

The question has been raised as to whether educational forces in agriculture should not direct their energies toward marketing and distribution methods and pay less attention to production in the future than in the past.

There is, undoubtedly, a great need and opportunity for study and investigation into the system of distribution and marketing of farm products, but the first principle in the successful marketing of any farm product is that the product be properly grown, graded and packed to meet the demands of the market. Uniformity and quality of the products are the fundamental requirements in lessening distribution costs. Starting with such products, it is easy to develop means of eliminating any unnecessary handling in transportation, grading by the middlemen or repacking for the trade.

While we would not underestimate the vital importance of improving our marketing methods, as far as possible, yet we cannot expect a marketing propaganda to be a panacea for all the ills that seem to exist in the transfer of the product from producer to consumer. It is true that the farmer receives only about 60 per cent. of the price paid by the consumer. It is equally true that the same ratio exists between the price received by the producer or manufacturer and that paid by the consumer in the case of any other product.

The system must be studied very carefully before any radical changes are advocated. The Extension Service has made a limited study of the distribution of farm products during the past year and desires to push this phase of our work energetically, but the whole problem is an intricate one, involving methods of production, grading and packing, as well as distribution. One of the principal aims of Extension and demonstration work is to improve the economic conditions of farm life. We interpret education, as used in Extension work, to mean instruction primarily through demonstration methods, not only in production, conservation, utilization and better living, but also in organization and marketing—so long as such demonstrations are for the public benefit. We believe in

the encouragement of business agencies among farmers, but our Extension forces cannot conduct business for farmers, except as demonstrations.

Organization.

Since the inauguration of Extension work, every effort has been made to encourage organization among rural people. Commendable progress has been made in the State toward this end. We believe in building from the community up, and therefore our organizations are formed on the community basis. More than five hundred (500) community organizations are functioning in the State. Too often organizations are formed from the top down, rather than from the ground up. Organizations of rural people must, of necessity, be gradual. Little can be gained and, in fact, much harm can be done by organizing a county or a community before it is ready—before the people realize the benefits to be derived from organization and before they are ready to give their undivided support to an organization. We do not believe in multiplying organizations in a community, rather we prefer to utilize any existing organization and make it serve the needs of the community.

In a number of counties where community organizations are functioning, county federations have been formed for the purpose of serving county needs. In another year we hope to have all the counties organized upon such a basis and to have these county federations affiliated with the Maryland Agricultural Society, the representative State organization. A number of counties will have a representative in the Society's council, beginning with the New Year.

The policy of the Extension Service is to encourage the active participation of the county organizations in the conduct of Extension work in the county. Each county organization is requested to outline the program of work that is desired, and their co-operation and assistance is needed to make the county agents' work a success. The policy of the service is that all Extension forces in the State are public servants, and all funds used for the support of Extension agents should be derived from the taxes of all the people. The progress of Extension work in this State, upon this basis, has been marked, and we approach the New Year of Extension activities enjoying the confidence and co-operation of the farming public of Maryland to an unusual degree.

Farm Opportunities.

A special effort has been made by the Service during the past year to furnish information to prospective settlers seeking farm homes in Maryland. A surprising number of inquiries have been

made by farmers from other States of the Union seeking farm opportunities in this State.

There was also much agitation concerning the location of returned soldiers on farm lands. National legislation has been proposed, providing funds for the reclaiming of wide areas of cut over lands in the South and undeveloped areas in the West. Maryland's policy for land settlement, as approved by the officers of this Institution, the Governor and State Board of Agriculture, emphasizes the need for utilizing all available, untilled lands, of which there are about one million acres in the State, before attempting to reclaim wide areas of land not suitable to agricultural purposes, except after the expenditure of much labor and money for bringing it under cultivation.

We are doing everything possible for the returned soldiers, but we believe that they should be encouraged to locate in their home States and on land capable of producing a comfortable living for them in the midst of a satisfactory environment.

The Service issued a brief bulletin on the agricultural possibilities of Maryland, and secured a list of available farms for sale in the State. This information, together with personal conferences by specialists and agents with all applicants, including the limited number of returned soldiers interested in locating on farms, has served to meet the need and has been fruitful in locating many desirable immigrants in the State.

On account of limited funds for the present fiscal year, it will be necessary to condense this annual report to a very limited discussion of the various lines of work conducted by the Service during the past year.

ADMINISTRATION.

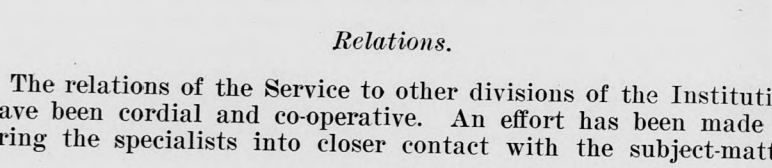
There has been no change in the policy and form of the Extension organization during the past year. The duties and relationships of the principal officers of the Service have remained the same, as previously reported. It has been one of the most difficult years, from an administrative standpoint, that the Service has experienced, due to a curtailment of funds by Congress and the subsequent reduction in force in the face of increased demands for service on the part of the people. There have been necessary changes in this transition period from war to a peace-time basis.

The increased activities during the war period created new demands and increased interest of farmers and farm women in the work of the Service. It has been difficult to meet these demands and continue last year's scope of work in the face of reduced financial support and increased costs in traveling and general maintenance.

The office and clerical work increases with the growth of the work in the State. Considerable advances have been necessary to keep experienced clerks. A total of 37,078 first-class letters have been mailed from headquarters during the year, while the total pieces of mail sent from the office has been about 176,640.

Relations.

The relations of the Service to other divisions of the Institution have been cordial and co-operative. An effort has been made to bring the specialists into closer contact with the subject-matter



A Field of Soy Beans in Allegany County.

departments. Group meetings are held in the subject-matter departments, so that all workers in a given field can be made familiar with the progress that is made and the work that is being conducted in the three branches of the Institution—investigation, teaching and Extension.

Special projects and agreements have been entered into with the State Board of Education, through the State Superintendent and county superintendents of public instruction and this Service, for the conduct of the boys' and girls' club work. These projects provide for the correlation of club work in the schools and joint responsibility between the school teachers and the agents in carrying out the work on the farm and in the homes. Cordial relations exist between the Service and other State agencies and with various farmers' organizations.

Source of Extension Revenue.

The present funds for Extension work are derived from the following sources: During the fiscal year ending June 30, 1919, there was available $37,113.56 from Federal Smith-Lever funds; $27,113.56 from State Smith-Lever funds; $25,380 from U. S. Department of Agriculture (regular); $75,000 from Federal emergency; $48,000 from the County Demonstration Fund; about $2,000 from the State Horticultural Fund; $5,060 from the State fund for general Extension work, and about $15,000 from the State Emergency Fund; or a total of $234,667.12, which was devoted to all phases of Extension work in the State. In addition, there was about $8,000 contributed by the various counties for aiding in the efficiency of the work in the respective counties.

During the present fiscal year there is available: $43,569.17 from Federal Smith-Lever funds; $28,112.93 from the State Smith-Lever Fund; $18,700 from the U. S. Department of Agriculture (regular); $19,366,83 from the Supplementary or Special Federal Extension Fund; $48,000 from the County Demonstration Fund; $5,060 from the State fund for general Extension work; about $2,000 from the State Horticultural Fund; or a total of $162,808.93 devoted to all phases of Extension work in the State. In addition to the above, about $15,000 has been contributed by the various counties for miscellaneous expenses for the men and women agents' work.

A detailed statement of these funds will be appended to this report.

The policy of having county agent work supported from public funds only, including Federal, State and county, is wise and in the interest of the public, enabling the agent to serve all interests and all the people of a county. This, in our opinion, is the only proper basis under which the work should be conducted. It is needless to point out here that the funds of the Extension Service must be largely augmented to enable the Service to perform the scope of work demanded by the people of the State.

Office Accommodation, Equipment, Etc.

The present office accommodations of the Service are admirable. Most of the first floor of the new Agricultural Building is devoted to Extension offices. Necessary equipment in the form of desks, lanterns, slides, letter files, chairs, etc., have been secured during the past year. A new moving-picture machine was purchased to use in rural districts. Much added equipment is needed for the specialists and agents when funds are available.

The office and clerical work increases with the growth of the work in the State. Considerable advances have been necessary to keep experienced clerks. A total of 37,078 first-class letters have been mailed from headquarters during the year, while the total pieces of mail sent from the office has been about 176,640.

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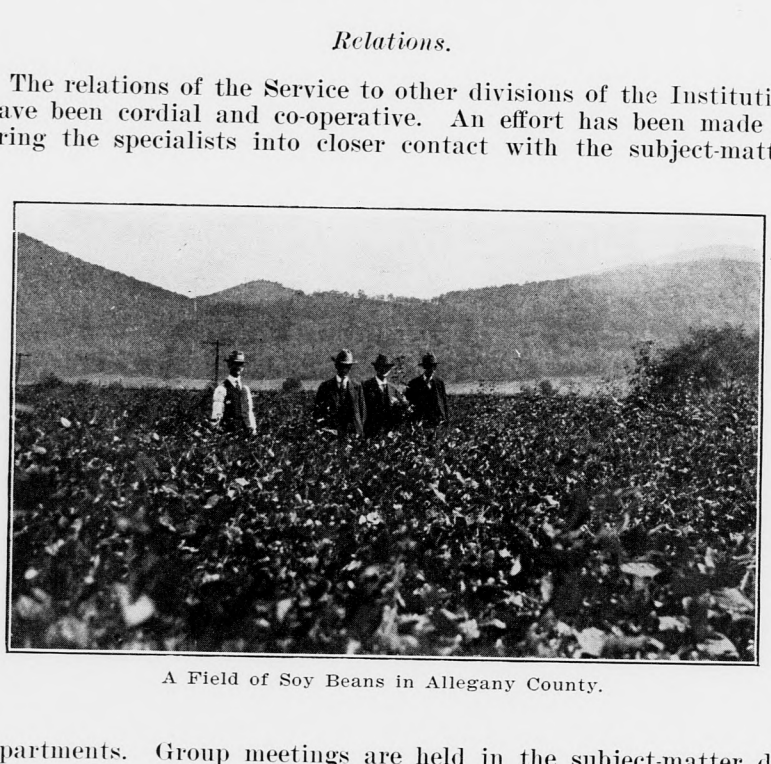

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Source of Extension Revenue.

The present funds for Extension work are derived from the following sources: During the fiscal year ending June 30, 1919, there was available $37,113.56 from Federal Smith-Lever funds; $27,113.56 from State Smith-Lever funds; $25,380 from U. S. Department of Agriculture (regular); $75,000 from Federal emergency; $48,000 from the County Demonstration Fund; about $2,000 from the State Horticultural Fund; $5,060 from the State fund for general Extension work, and about $15,000 from the State Emergency Fund; or a total of $234,667.12, which was devoted to all phases of Extension work in the State. In addition, there was about $8,000 contributed by the various counties for aiding in the efficiency of the work in the respective counties.

During the present fiscal year there is available: $43,569.17 from Federal Smith-Lever funds; $28,112.93 from the State Smith-Lever Fund; $18,700 from the U. S. Department of Agriculture (regular); $19,366,83 from the Supplementary or Special Federal Extension Fund; $48,000 from the County Demonstration Fund; $5,060 from the State fund for general Extension work; about $2,000 from the State Horticultural Fund; or a total of $162,808.93 devoted to all phases of Extension work in the State. In addition to the above, about $15,000 has been contributed by the various counties for miscellaneous expenses for the men and women agents' work.

A detailed statement of these funds will be appended to this report.

The policy of having county agent work supported from public funds only, including Federal, State and county, is wise and in the interest of the public, enabling the agent to serve all interests and all the people of a county. This, in our opinion, is the only proper basis under which the work should be conducted. It is needless to point out here that the funds of the Extension Service must be largely augmented to enable the Service to perform the scope of work demanded by the people of the State.

Office Accommodation, Equipment, Etc.

The present office accommodations of the Service are admirable. Most of the first floor of the new Agricultural Building is devoted to Extension offices. Necessary equipment in the form of desks, lanterns, slides, letter files, chairs, etc., have been secured during the past year. A new moving-picture machine was purchased to use in rural districts. Much added equipment is needed for the specialists and agents when funds are available.

Changes in Personnel.

Quite a number of changes have been made in the Extension force during the past year. Many changes were caused by a reduction in available funds. The time has arrived when salaries for Extension workers must be increased if we are to maintain our present high standard of workers. Private enterprises are constantly drawing our best men and women by paying much larger salaries. Extension work especially cannot afford to accept workers lacking in experience, training and personality. The people demand men and women of unusual ability as specialists and agents. The problem is not merely whether the income of specialists and agents shall be made more equal to the cost of living, it is whether inducements can be offered to offset the allurements of business. The State can make no better investment than to have this important work carried on by the best available talent.

The following changes have occurred in the Service during the past year:

J. F. Davis was appointed Agent for Dorchester County, April 1, vice C. E. Leathers, who died January 27; J. A. Towler was appointed Agent for Garrett County, April 1, vice A. G. Middleton, resigned; G. W. Norris was appointed Agent for Anne Arundel County, May 25, vice H. C. Whiteford, resigned; Eston F. Fox and H. W. Fristoe, Assistant Boys' Club Agents, resigned July 1; K. C. Cole, Assistant Agent, was appointed Acting Agent for Allegany County, August 1, vice John McGill, Jr., resigned; H. B. Derrick, Assistant Agent, was appointed Agent for Kent County, August 5, vice L. L. Burrell, resigned; R. F. McHenry, State Boys' Club Agent, resigned September 1 and was succeeded by Ed. G. Jenkins on August 15; P. W. Chichester was appointed Assistant Boys' Club Agent, October 1, vice D. J. Howard, resigned; C. L. Opperman, Agricultural Editor, was granted a six months' furlough, beginning October 1; W. C. Thomas, Assistant Agent, will be appointed Acting Agent for Caroline County, January 1, vice E. O. Anderson, resigned; W. B. Posey, will be appointed Agent for Prince George's County, January 1, vice C. H. Taylor, resigned; F. A. Wirt, Farm Machinery Specialist, has resigned, effective January 1; T. L. Smith, Agent in Washington County, and J. L. Fidler, Agent in Howard County, have resigned, effective January 1; V. C. Powell, Assistant Agent in Allegany County, resigned July 1; Ira V. McKenzie, Assistant Agent in Allegany County, resigned October 1; J. W. B. Tull (colored), Local Agent, resigned October 1.

Miss Margaret Schmidt was appointed District Agent for Southern Maryland, February 15, vice Miss Gertrude Erickson, resigned; Miss Adice S. Jones, Agent in Washington County, was appointed Assistant Girls' Club Agent, April 1, and was succeeded in Wash-

ington County by Miss Sue Frick, Assistant Agent; Miss Alice C. Walton resigned as Urban Worker in Baltimore City, April 15; Miss Emily Kellogg succeeded Miss Katherine Braithwaite in Baltimore County for the three summer months, and Miss Bertha Ide was then appointed Agent for the county, November 1; Miss Leah Gause succeeded Miss Emma Lowe in Calvert County, July 1; Miss Eleanor Albaugh succeeded Miss Ella Day in Cecil County, July 1; Miss Albaugh died in September and was succeeded by Miss Esther Wotring, who was Assistant Agent in Washington County; Miss Julia Etchison was appointed Agent in Charles County, July 1, to succeed Miss Viola Poole; Miss Frances G. Stuart succeeded Miss Helen G. Walker in Dorchester County, July 1; Miss Ella Rhodes succeeded Mrs. Nelson Hauver in Frederick County, July 1; Miss Susan V. Hill succeeded Miss Annie L. Copper in Kent County, July 1; Miss Katherine Murrin succeeded Mrs. Mattingly Johnson in St. Mary's County, July 1; Miss Mary Byrn was appointed Agent in Queen Anne's County, June 15; Mrs. Nellie Turner (colored), Local Agent in Talbot County,, and Mrs. Eula W. Young (colored), Local Agent for Prince George's and Anne Arundel counties, resigned July 1.

Increasing Efficiency of Workers.

Every effort is made to facilitate the work of the agents and specialists. Monthly conferences are held of all specialists at headquarters. County agents in close proximity to each other also hold monthly conferences. It is hoped to work out a basis for group meetings for all agents that will be convenient and inexpensive in travel and not require too much time.

An annual conference of all agents has been held, and also several district conferences. The plan inaugurated by our Service for visualizing the agents' work on county maps has been very successful and useful. It enables the agent to observe at the end of the year, when making up his annual report, the progress made in the several districts. All the agents have been visited from time to time by administrative officers for purposes of conference and going over plans of work.

The past year, specialists have been requested to visualize their work on State maps, which proves equally useful. The outlining of definite programs of work by the specialists and monthly reports on progress of the work in conferences, serves to emphasize the necessity for definite results. The splendid co-operation of all forces in the Service serves to increase the efficiency of all workers.

The administration of the Service, in co-operation with the U. S. Department of Agriculture, during the past year has been most agreeable and satisfactory from every standpoint. The Assistant Director, Dr. Bomberger; the State Home Demonstration Agent,

Miss Kellar; and the District Agent, Mr. McLaughlin, have each rendered able and unselfish support in the administration of the Service.

PUBLICATIONS.

Fewer publications have been issued by the Service during the past year on account of limited funds. The *State College Journal* has been published monthly by the Service. This paper contains articles of immediate use to farmers, gives various news items of

The Head of the Italian Agricultural Commission Trying Out Farm Tractor and Tractor-Drawn Implements Preparatory to Placing an an Order for the Italian Government. Photo Taken on a Montgomery County Farm.

the Service and is designed to keep farmers informed of the work in progress. A total of 96,000 copies, with 384,000 pages, have been issued. The following bulletins have been published: Bulletin No. 11 (revised), "The Spray Calendar," contains four pages, 3,000 copies printed; Bulletin No. 16, "Home Garden Record Book," contains 18 pages, 3,000 copies printed; Bulletin No. 17, "Boys' Corn Club Lessons," contains 41 pages, 8,000 copies printed; Bulletin No. 18, "Maryland Invites You," contains 34 pages, 10,000 copies printed; Bulletin No. 19, "Boys' Potato Club Lesson," contains 28 pages, 8,000 copies printed. A large amount of circular matter

has been distributed to the agents and farmers. Thirteen circulars on timely subjects, making a total of 27,500 copies, have been issued.

Mr. C. L. Opperman, as Agricultural Editor for six months, was able to review the manuscripts and arrange for their publication. He had charge of editing the *Journal* and arranged for the publication of many articles on the work of the Service in co-operation with the specialists in various magazines. Special newspaper articles were prepared for the city and county presses, and weekly articles were prepared for an agricultural page in the Washington Sunday *Star*.

The mailing list has been revised during the past year in accordance with the plan of revising or correcting it from time to time as needed. The names of individuals are arranged on metal plates and stored in an addressograph cabinet. Addressing of circular matter or bulletins is facilitated by a machine. It is hoped that we can increase our mailing list as funds become available.

PROJECTS.

All work of the Extension Service is planned as far as possible in advance, and project agreements under Smith-Lever funds are entered into with the U. S. Department of Agriculture.

COUNTY DEMONSTRATION WORK.

The development of county demonstration work in Maryland has been most gratifying. In counties where the farmers felt there was no need for a county agent, the sentiment is now entirely reversed, and we are unable to meet the demands for assistance to the agents necessitated by the increased amount of work.

In all the counties of the State there exists a splendid feeling of co-operation between the agents and the rural people. Rural communities have been organized that previously have never thought of getting together for pleasure or profit. There are now more than 500 rural community organizations in the State that co-operate with the agents in their work.

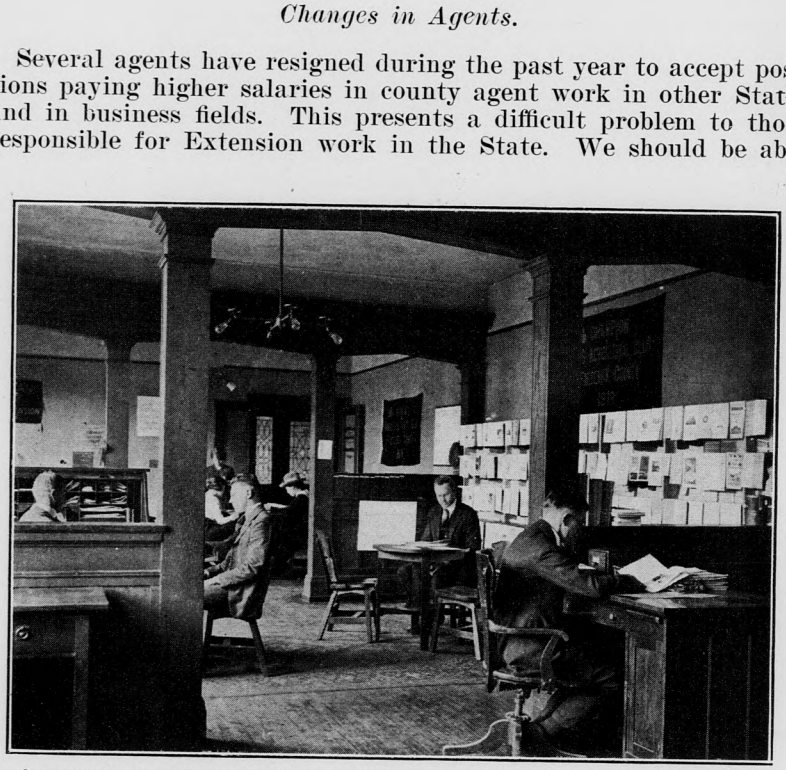
Notwithstanding the severe cut in our funds, a man agent has been maintained in each county during the past year. The agents, as a whole, have done splendid work. It is believed that the work in some counties, as reflected in the annual reports, will not be surpassed in county agent work conducted elsewhere in the country. It is unfortunate that a summary of the work by counties cannot be included in this report.

Some evidence of the manner in which our forces are reaching the people is indicated in the following figures. During 1919, our agents made 19,086 visits to farms; they had 18,477 visits or calls upon them for information at their offices; they traveled 204,787 miles

in the counties and a total of 2,270 meetings were held under the auspices of Extension work, not including 316 field meetings held to emphasize the results of demonstration work.

Changes in Agents.

Several agents have resigned during the past year to accept positions paying higher salaries in county agent work in other States and in business fields. This presents a difficult problem to those responsible for Extension work in the State. We should be able



County Agent, Home Demonstration Agent and Secretary of the Board of Trade, All Housed in One Commodious Room, Frederick County.

to keep these men who are making outstanding records in service to the people. It is an economic loss to change agents, as usually it takes a year or more before a capable agent can become familiar with conditions in a county in order to render the best service. The State and counties cannot afford to have our best talent seek other fields of employment in order to secure an adequate income. Changes in the women's work have been even more frequent than in the men's work. For this reason, the home demonstration work has been severely handicapped in many counties. It is hoped that reasonable provision can be made by the Government, State and counties to prevent undesirable changes in the Service.

Summary of Men's Work.

The following summary of work conducted is taken from the agent's reports:

Crop.	*No. Demonstrations.*	*Average Yield Per Acre.*
Corn	255	70 bushels
Wheat	212	22 bushels
Tobacco	34	800 pounds
Oats	14	43 bushels
Rye	33	27 bushels
Barley	39	48 bushels
Buckwheat	4	21 bushels
Alfalfa	204	3.5 tons
Crimson Clover	208	2.50 tons
Mixed Grasses	14	2.66 tons
Cow peas	67	2.1 tons
Soy Beans	228	grain 16 bushels; hay 3 tons
Irish Potatoes	240	215 bushels
Sweet Potatoes	7	258 bushels
Tomatoes	717	133 bushels

ORCHARDS	881	Instructed in the culture of 571,878 trees.
DAIRY CATTLE	100	Pure bred bulls and 401 registered heifers were brought into the State as a result of the activities of the agents.
BEEF CATTLE	22	Pure bred bulls and 67 pure bred heifers have been brought into the State through the agents' influence.
HOGS	113	Pure bred boars and 586 pure bred gilts have been purchased by demonstrators.
SHEEP	37	Pure bred rams and 109 pure bred ewes have been purchased as the result of the county agents' influence.
POULTRY	149	Demonstrations involving 9,349 chickens have been carried on under methods advocated by county agents.
LIVESTOCK DISEASES AND PESTS	30,056	Head of livestock have been treated for diseases of pests at the suggestion of county agents and specialists.

MANURE	2,229	Farmers followed suggestions of county agents relating to better care and handling of manure. The agents placed 139 manure spreaders on demonstration farms.
LIME	1,490	Farmers have used lime under direction of county agents.
SILOS	69	Silos were built under the direction of county agents.
ORGANIZATION	85	Farmers' organizations, membership 4,228.

List of Successful Undertakings Conducted by Agents and Specialists.

Organization:

1. Community Organizations.
2. Boys' Agricultural Clubs.
3. County Federation and Organizations.
4. Buying and Selling Organizations.
5. Livestock Breeders' Association.
6. Cow Testing Association.
7. Seed Corn Growers' Association.
8. Farm Loan Associations.
9. Co-operative Milk Plant.
10. Agricultural Fairs:
    a. Community Shows.
    b. County Exhibits.
    c. County Fairs.
11. Thrift Stamp Campaign.
12. Home Garden Association.
13. Farmers' Picnics and Field Meetings.
14. Hog Cholera Control.
15. Farmers' National Congress Reception.
16. Maryland Agricultural Society Meetings at Hagerstown.
17. Boys' Club Camp.
18. Development of Community Spirit.
19. Community Spraying Demonstration, Potatoes and Orchards.
20. Milk Routes.
21. Fruit Survey.
22. General Welfare Work (Schools, Roads, Etc.).
23. Tobacco Growers' Association.
24. Tomato Growers' Association.
25. Seed Potato Growers' Association.
26. Community Drainage Ditching.

Livestock Demonstrations:

a. Livestock Breeders' Association.
b. Cow Testing Associations.
c. Pure Bred Pig Clubs.
d. Boys' Livestock Judging Contests.
e. Hog Cholera Control.
f. Importation Pure Bred Cattle.

g. Grazing Crops for Hogs.
h. Judging Demonstration at Meetings.
i. Livestock Development.
j. Introduction of Pure Bred Sheep.

Farm Crops Demonstration:

1. Growing Demonstrations—
   a. Alfalfa.
   b. Soy Beans.
   c. Corn.
   d. Grazing Crops for Hogs.
   e. Legumes and Forage Crops.
   f. Fertilizing Wheat.
   g. Use of Lime and Fertilizer.
   h. Home Gardens.
   i. Orchards. Pruning, Spraying, Etc.
   j. Soil fertility.
   k. Strawberry.
   l. Potato Spraying.
   m. Clearing and Draining Lands.
2. Seed—
   a. Seed Corn Growers' Association.
   b. Potato Spraying, Community.
   c. Soy Beans.

Boys' Club Work:

1. Pure Bred Pig Club.
2. Organization.
3. Livestock Judging Contest.
4. Boys' Club Camp.
5. Agriculture in Rural Schools.

Farm Machinery:

1. Tractor Demonstrations.
2. Tractor Schools.
3. Threshermen Schools.
4. Multiple Hitch for Horses.

Publicity:

1. Local Press.
2. Maryland Farmer.
3. Circulars and Posters.
4. Bulletin Boards.

	1919.
1. Number of visits to farmers by county agents	19,086
2. Number of miles traveled by county agents	204,787
3. Calls on agents relative to work at office or home (personal)	18,477
4. Calls on agents relative to work (telephone)	14,936
5. Number of farmers' meetings held under auspices of agents	2,270
6. Number of meetings addressed by agents	2,606
7. Total attendance at such meetings	213,300
8. Number of field meetings held	316
9. Total attendance at these meetings	24,487
10. Number of official letters written	36,419
11. Number of circular letters prepared and distributed	92,117
12. Number of articles relating to work published	1,744
13. Number of bulletins of the State and U. S. Department of Agriculture distributed	30,631

The District Agent summarizes his personal work as follows:

Number of days spent in the field (66 per cent.)	189
Number of days spent in the office (33 per cent.)	97
Number of meetings attended, but not addressed	19
Attendance	2,276
Number of meetings addressed	109
Attendance	9,301
County agents visited	22
Days spent with agents	163
Farmers visited	560
Community exhibits judged	12
Number of new agents installed	5
Miles traveled—rail, 8,137; auto, 6,631; total	14,768

The Assistant Director summarizes his personal work as follows:

Meetings attended	157
Attendance at meetings	17,550
Addresses delivered	90
Visits to agents	65
Visits to counties	80
Number of letters dictated	2,345
Number of miles traveled:	
Automobile	5,082
Train and boat	7,228
Total miles traveled	12,310

The Director's summary is as follows:

Number of meetings attended	80
Number of addresses delivered	56
Attendance at meetings	6,275
Number of visits to agents and counties	55
Number of miles traveled (approximately)	8,995

The Assistant Director, Dr. Bomberger, and the District Agent, Mr. McLaughlin, have assisted in the supervision of the county agent force. Mr. McLaughlin has guided the men agents appointed during the year, and secured generous aid from the county authorities. He also assisted in arranging county agent budgets and did special, valuable work in assisting the tobacco growers and dairymen.

The following agents are at work in the various counties of the State:

Name.	*County.*	*Headquarters.*
K. C. Cole	Allegany	Cumberland
G. W. Norris	Anne Arundel	Annapolis
J. F. Hudson	Baltimore	Towson
J. H. Drury	Calvert	Chaney
W. C. Thomas	Caroline	Denton
F. W. Fuller	Carroll	Westminster
J. H. Knode	Cecil	Elkton
J. P. Burdette	Charles	La Plata
J. F. Davis	Dorchester	Cambridge

P. A. Hauver	Frederick	Frederick
J. A. Towler	Garrett	Oakland
B. B. Derrick	Harford	Belair
J. L. Fidler	Howard	Ellicott City
H. B. Derrick	Kent	Chestertown
F. J. Van Hoesen	Montgomery	Rockville
W. B. Posey	Prince George's	Upper Marlboro
O. C. Jones	Queen Anne's	Centreville
G. F. Wathen	St. Mary's	Loveville
C. Z. Keller	Somerset	Princess Anne
E. P. Walls	Talbot	Easton
T. L. Smith	Washington	Hagerstown
G. R. Cobb	Wicomico	Salisbury
E. I. Oswald	Worcester	Snow Hill

Local Agents.

J. F. Armstrong (colored)	Southern Maryland	Seat Pleasant
L. H. Martin (colored)	Eastern Shore	Princess Anne

Negro Work.

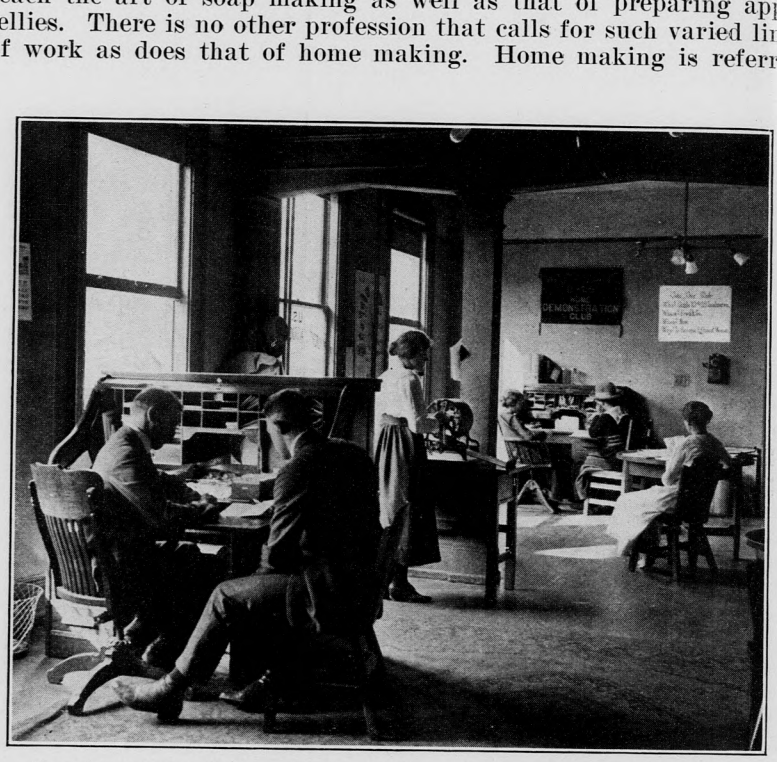
Three colored men agents have been continued in the work the past year. One devoting his time to Southern Maryland, and two to the Eastern Shore. These agents have been of great assistance to the colored farmers of these sections. They have conducted 1,297 demonstrations in farm crops and livestock. They have made 3,259 visits to farmers and traveled 19,732 miles. Several community exhibits have been held, and, as a whole, the colored work has been very successful and profitable.

HOME DEMONSTRATION AND GIRLS' CLUB WORK.

Miss Venia M. Kellar, in charge of this project, which is supported by Smith-Lever funds, together with State and county funds, reports unusual progress in the home demonstration work during the re-adjustment period. During the war period, Miss Kellar reports that the work of the home demonstration agents was very closely correlated with that of the Food Administration and the Council of Defense. The co-operative work with these organizations served to place the home demonstation work upon a more firm foundation. Numbers of people, who never were familiar with the true meaning or scope of Extension work among women and girls before the war, soon came to recognize the purpose and value of the work. Home demonstration work stands today as the biggest piece of educational work that women have ever attempted to do. There are no limitations to the duties of a home maker, and it is only by education in the science of home making that home problems can be made easier.

The war brought about an unusual change in our home conditions, and the average home maker was forced to become educated

along the lines of health, food, thrift and sanitation. The trained home demonstration agent was naturally best suited to give information and assistance in these problems. She was called upon to advise and help in every phase of home making, from renovating old clothes to the proper food for the baby. She was expected to teach the art of soap making as well as that of preparing apple jellies. There is no other profession that calls for such varied lines of work as does that of home making. Home making is referred



County Agent and Home Demonstration Agent Have a Joint Office.

to as a profession, and that is just what it is. There is no art of which a girl should feel more proud of being accomplished in than the art of home making.

Society now demands the best that is in every woman, as well as in every man, and if a girl has studied thoroughly the art of home making along with her music and embroidery, she has a great advantage over the girl who is not thus trained. When home making is recognized as a profession and not guess work, over work and patch work, we will have more contented home makers.

In the conduct of the home demonstration work the past year, emphasis has been placed upon "the betterment of the home." "The

betterment of the home" is a comprehensive term, and therefore includes a wide and varied program. The efficient home, as a modern institution, covers 10 cardinal points, viz.: health, economy, beauty, productivity, hospitality, ambition, devotion, co-operation and character. These points are universal in application and proper consideration must be given each subject if the community is made a desirable place in which to live. We believe, that as all human interests gather, center and radiate in the home, it should be given first consideration in a real efficiency program.

Personnel.

Miss Kellar has been assisted in the conduct of the work during the past year by Miss Adice S. Jones, Assistant Club Leader, and three District Agents and Specialists, Miss Ola M. Day, Miss Mabel Stephenson and Miss Margaret Schmidt. The State has been divided into three sections for purpose of supervision, Eastern, Western and Southern. Home demonstration agents have been employed in all counties for given periods during the year. The work has been seriously handicapped by the change in women agents. We must provide additional funds in order to give the women agents additional salary and traveling expenses. All of the agents have rendered able service under trying circumstances. It is working for the love of the work when an agent is compelled to furnish an automobile and do the work required of them for $1,200 per year. This amount is practically all we have been able to allow with very limited expenses. The changes in the service of the women agents is just as serious and expensive as with the men.

The home economics work has been prosecuted along the following lines:

Community Organizations.

Ninety community organizations were perfected the past year. These organizations are growing in strength, and ability to do things for the good of the community. Sixty-five community picnics were held during the summer months. At these meetings, the agents conducted demonstrations and otherwise assisted in the program. Seventy-two community shows have been held during the year, where the agents' work was displayed. Approximately 15,559 jars of canned products were exhibited, and other culinary exhibits amounted to 16,115. Both quality and quantity showed at least 65 per cent. improvement over exhibits made in previous years.

Farmers' Institutes and Short Courses.

Seventy-two farmers' institutes were held with programs for women at various centers in the State. These meetings were well attended by farm women. The agents and district agents gave

along the lines of health, food, thrift and sanitation. The trained home demonstration agent was naturally best suited to give information and assistance in these problems. She was called upon to advise and help in every phase of home making, from renovating old clothes to the proper food for the baby. She was expected to teach the art of soap making as well as that of preparing apple jellies. There is no other profession that calls for such varied lines of work as does that of home making. Home making is referred

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A Monthly Meeting of the Washington County Agricultural Association. This Association Is a Federation of About Thirty Farmers and Community Organizations, Which Have Been Organized During the Past Three Years, or Since County Agent Work Was Inaugurated in the County.

lectures and demonstrations. Twelve communities held short courses during the winter months, programs being planned to meet the needs of the various communities in which they were held. Practically the only way of reaching numbers of farmers and home makers with information is through these short courses.

Hot School Lunches in Rural Schools.

In order to assist in the health campaign, and at the same time give instruction in home economics, co-operation has been secured with the school authorities in the introduction of hot lunches for the children in rural schools. The results of this work have been very gratifying. Bulletin No. 12, entitled, "The Hot School Lunch," was issued by the Service, and a second edition is now being published. Hot school lunches are now being served in 121 rural schools. Sixty-three rural schools have been completely equipped with stoves and other necessary equipment for the serving of these lunches by the Junior Home Makers' Clubs. Ninety-five social functions have been held for the benefit of this work. Approximately $1,658.14 was realized from these functions.

Girls' and Women's Clubs.

Every effort has been made to increase the interest, environment and work of the girls' and women's clubs. Enrollment of the girls' clubs has been greatly increased since the club work has become correlated with the school work. In some counties, the women's work has not progressed as we would desire, but greater efforts are now being made to develop the work in these sections. In all cases, the agents have emphasized home projects where they are able to get in touch with the women and girls in their homes.

Miscellaneous Work.

Home Beautifying—Considerable attention has been given to the beautifying of the home and surroundings this year by the agents. Fences have been mended, old flower beds replaced, new shrubbery and trees planted, homes painted outside, homes have been remodeled on the inside, plain wall paper has taken the place of the gaudy, and other improvements suggested by the agents have been made.

Labor-Saving Devices—Record of 534 labor-saving devices have been reported by the agents. This does not include 150 pressure cookers placed in homes during the year. Commercial dealers have been of great assistance in exhibiting and demonstrating different labor-saving devices at the fairs and community shows. At one county fair during an afternoon, six $125 electric washing machines

were sold. One county reports 21 new washing machines placed in country homes in the past six months.

During the month of June, the home demonstration agents installed a model kitchen equipment in one or more stores that kept household equipment in their counties. The demonstrations were very successful. Proper location of sink, stove, kitchen cabinet and other articles of kitchen equipment were shown, as well as all kinds of labor-saving devices demonstrated.

Health and Sanitation—Much attention has been given to health and sanitation around the home and in the schools. As a part of the sanitation work, children have been taught to keep school houses clean. Several school buildings have been painted inside and out, and the necessary repairs made through efforts of the club girls. One women's club raised money for new outbuildings for two schools in the neighborhood.

Recreation—Games for both old and young have found a place in all the community club programs. Through community singing and games, the social life of the rural communities has been improved to a great extent.

Home Efficiency—All educational work tends to increase home efficiency. The home demonstration work is conducted through every available agency to secure results in reaching the home for the betterment of conditions and building up country life.

Girls' Club Work.

The girls' club work has been conducted along the following lines: 1. Bringing about more definite work and results in club work at the same time raising the standard of work. 2. Junior Short Course. 3. Girls' camps and picnics. 4. Encouragement of thrift and savings among girls. 5. To interest rural teachers in club work, as well as to secure their co-operation in the club work. 6. Establishment of hot school lunches in the rural schools. In the method of procedure, a definite plan of organization was made and adopted for club work. A definite course of instruction was planned, including poultry, cooking, sewing and home beautifying. Monthly lessons on these subjects were sent to all the club members.

A Junior Short Course for the prize winners from each county was held at College from June 2 to 7, inclusive. Seventy-one girls attended this course. Two girls' short courses, in the form of camps and picnics were held later in the summer, one at Big Pool, Washington County, and the other at Shiloh Camp, Dorchester County. These camps were well attended, and afforded an excellent opportunity to give instruction and entertainment to the girls. The State prize winning girls in the different lines of work were awarded prizes in the amount of $200 in Liberty Bonds, given

by Mr. Edwin G. Baetjer, the State Food Administrator. The following girls won State prizes: 1st, Alverta Miller, Grantsville; 2nd, Lenore Neikirk, Boonsboro; 3rd, Laura Amos, Belair; 4th, Alice Rhinehart, Westminster; 5th, Dorothy McAllister, Edorado; 6th, Mary Willett, La Plata.

Urban Work.

Only a limited amount of urban work has been conducted during the year. This included assistance with the woman's civic league, in the conduct of sales in Army food and blankets in Baltimore by Miss Braithwaite, a continuation of the community kitchen at Fells Point by Miss Gwynneth Gminder, and assistance in the city garden work by Mrs. Adelaide Derringer. Good results were secured through the co-operation of the city authorities. It is hoped that we may be able to place a woman agent permanently in Baltimore, to carry on the various lines of work needed in co-operation with city agencies.

Colored Work.

Owing to lack of funds, it has been necessary to discontinue the work of colored home demonstration agents, except one. Miss Leah Woodson is doing splendid work in Southern Maryland. She is conducting a night school with an enrollment of 38; she is aiding in the school work and arousing interest among colored people in home demonstration work.

Miss Kellar submits the following summary of activities during the year in this work:

Summary of County Agents' Reports.

Consultations at home or office	28,274
Visits to demonstrators, homes, schools and clubs	5,367
Bulletins distributed	15,949
Letters written	4,801
Meetings held	4,359
Miles traveled	121,720
Number of exhibits, fairs, poultry shows, etc	89
Number of women influenced by home demonstration work	7,862
Demonstrations given by agents to groups of women	921
Utilization of vegetables	87
Dairy products	36
Poultry products	32
Bread making	30
Child feeding	57
Invalid cookery	37
Cookery under steam pressure	179
Fireless cooker	78
Canning	274
Drying	45
Brining	12
Vinegar	3
Laundry	13

Clothing	31
Home conveniences	84
Kitchen arrangement	66
Improving home grounds	47
Total demonstrations given	1,116
Estimated total attendance of women at demonstrations	13 579
Number of women giving demonstrations	343
Number of women making bread under direction of home demonstration agents	258
Number of bread exhibits	104
Number of gardens grown	92
Number of cans of meat put up	29.121

Part of the Horse and Wagon Parade, Walkersville Community Show.

Number of cans of fish and oysters put up	20
Number of pounds of lard made	23,180
Number of gallons of vinegar made	2,100
Number of demonstration centers established	14
Number of women keeping household accounts	162
Number of labor-saving devices installed	559

Girls' Work.

Number of girls enrolled in poultry work	1.000
Number of girls enrolled in garden work	4,446
Total number of containers canned from 1/10 acre gardens	29.209
Number of jars of products canned by girls	63.227
Value of crops raised on 1/10 acre gardens	$13,522.59
Number of girls' clubs	262
Total number of girls enrolled	5 766
Number of girls making demonstrations in canning	335
Number of steam pressure canners and other labor-saving devices installed through girls' efforts	407
Number of clubrooms established	15

Number of equipments in schools	63
Number of girls completing first-year work	533
Number of girls completing second-year work	127
Number of girls completing third-year work	22
Number of girls completing fourth-year work	7
Total number of certificates to be awarded to girls	689
Number of short-course scholarships awarded:	
County	2
Community	3
State	19
Number of girls reading books suggested by and obtained from the Extension Service, Maryland State College	211
Report on interior and exterior decoration done by girls:	
Homes	10
School grounds	8
Number of picnics and public entertainments given by girls	96
Amount of money raised by girls	$1,668.14

House and Yard Improvement.

Number of fences repaired	6
Number of trees planted	45
Number of shrubs planted	10
Number of outbuildings repaired or removed	6
Number of lawns planted	4
Number planting flowers	28
Number of demonstrations following plan of improvement for home	58
Number of new houses built	3
Number of houses remodeled	6
Number of lighting systems installed	18
Number of heating systems installed	25
Number of water systems improved	8
Number of kitchens improved by:	
Rearrangement	65
Screening	14
Improvement of floors	13

Summary of Report of District Agents and Specialists.

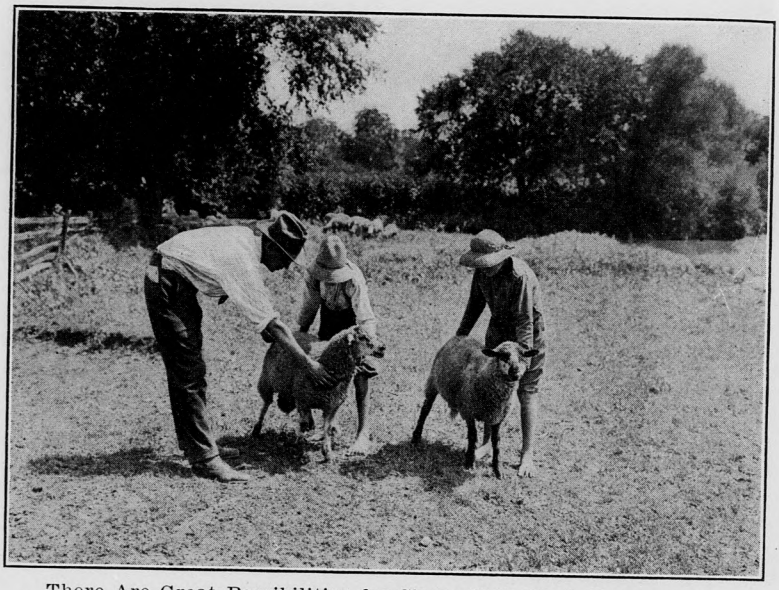
Number of meetings attended	570
Total estimated attendance	39,648
Number of visits to agents	235
Number of demonstrations given	179
Number of miles traveled	35,041
Number of exhibits judged	37

Summary of State Home Demonstration Agents' Activities.

Number of counties organized	23
Number of county agents employed	23
Number of assistant county agents employed	1
Number of colored workers employed	1
Number of urban workers employed	1
Number of county agents employed full time	23
Number of miles traveled by State agent	9,245
Number of meetings attended by State agent	69
Approximate attendance	12,515
Number of official letters dictated	3,408
Number of demonstrations given by State agent	25
Number of visits to county and urban agents	75

BOYS' CLUB WORK.

A reduction in the force conducting boys' club work, and a change in leaders, due to limited finances, has greatly handicapped the progress of the work this year. Notwithstanding these conditions, the general interest in the boys' work has greatly increased. Just previous to the closing of the demonstrations throughout the State, Mr. R. F. McHenry resigned to enter business fields, and a month later, D. J. Howard, Assistant, resigned to take up vocational work. The service regretted exceedingly to lose these young men who have labored so earnestly to develop boys' club work in the State.



There Are Great Possibilities for Sheep Club Work in the State.
(Photographed in co-operation with States Relations Service, U. S. D. A.)

Mr. E. G. Jenkins is now in charge of the project with Stanley E. Day and Peter W. Chichester, as assistants. Every effort has been made by the present leaders in co-operation with the county agents to close up the work for the year in a satisfactory manner. Many boys who received attention in starting their demonstrations, thus have had little or no assistance in the closing of them, and the county agents have been able to report in the main, only such faithful and earnest boys as have finished their work alone. The county agents have been so crowded with other work that the club boys could not be given proper attention. This is noticeably true in

counties where assistant agents took charge of the work during the war period.

The work was started in 1919, upon a rather larger scale than heretofore. A steadily growing interest in the pig, corn and potato clubs was in evidence in many counties. Our policy has always been to have the boys do a piece of work well, and we have been more interested in the quality of work than in numbers of enrollment.

Realizing the desirability of correlating the club work with the school work as much as possible, Mr. McHenry worked earnestly to bring about a plan for co-operative work with the public school authorities. He was able to perfect an agreement between the Extension Service and the public school forces. Six counties have so far submitted written plans which outline the methods, organization, and the responsibilities of the co-operating parties. These plans have as their objectives:

(a) To train boys and girls to take the initiative, and to develop leaders in intelligent and sympathetic participation in community and civic activities as a preparation for maximum efficiency in adult life.

(b) To prepare farm boys and girls for future adult agricultural activities and community industries by the introduction of elementary agriculture and home economics into the rural school curriculum.

(c) To vitalize and motivate the academic work in rural schools by correlating club work with regular academic work, in order that the subject matter taught in the rural school may more closely touch the vital interest of the student at home and in the community. This vitalization will be accomplished by the practical application in the home, and on the farm, of the theories taught in the classroom, in having the students actually do the things they are being taught to do.

(d) To set such standards in club work as shall be within the capabilities of the mass of students to reach in order that the maximum service may be rendered.

(e) To utilize the home activities of club students toward the solution of immediate and existing farm, home and community problems by so organizing their demonstration work as to attack existing problems and remedy immediate ills.

We feel that a distinct step forward has been made which will mean a great expansion of the work. The rural teachers in many parts of the State are showing increased interest in boys' club work, and it is expected that under the new plans, they will ably lead the clubs as directed by the county agents.

Pig Club Work.

The Pure Bred Pig Breeding Club phase of the work is advancing rapidly over the State. Great care is being exercised in the selection of all breeding stock in each county. Pure bred pigs have been shown by club members at nearly all county fairs, and at many community and school exhibits. Sixty-three registered animals exhibited at Harford County Fair, occasioned wide and favorable comment. Worcester County has made an enviable record in pig club work. For two years, the boys' pig club exhibit has been a

Club Boys Sizing up the Pigs.
(Photographed in co-operation with States Relations Service, U. S. D. A.)

feature of the animal exhibit at the Pocomoke City Fair. Seventy-five pure bred pigs were shown by the boys' club members this year. This work in this county, as well as in others, has demonstrated the possibilities of introducing pure bred stock through the boys' club work. Bankers and other business men are becoming increasingly interested in this club activity. Its value to the industry, to the rural economic situation, and to the character development of boys is so pronounced as to lead to the conclusion that few, if any, demonstrations approach the pure bred pig breeding demonstrations.

Corn Club Work.

The corn club work has progressed, as previously reported, in all counties. In many places on the Eastern Shore and Southern Maryland, unusually severe storms completely ruined stands of corn. Notwithstanding this set-back, an average of about 75.18 bushels (yield per acre), is reported by the club agent. The corn club work has done much towards improving the standard of corn, and advanced methods of selection and culture.

Potato Clubs.

Much interest has centered in the potato club work in various sections. Unfavorable weather conditions in the Eastern section of the State caused a severe reduction in yields. However, a good average yield for the State has been reported as 213.8 bushels per acre.

Junior Short Course.

All the winners in the club work in the counties were given a trip and short course at the College during the week of June 2 to 9, inclusive. About 100 boys attended the course. This afforded an opportunity to give the boys special training, and an interesting trip. State prizes to the amount of $200 were given the State winners. This money was generously contributed by Mr. Edwin G. Baetjer, of Baltimore.

Two splendid bulletins giving club lessons for the year on corn and potatoes by Messrs. McHenry and Howard have been published and distributed.

Mr. Stanley E. Day has done unusually good work in assisting the agents on the Eastern Shore in club work. Mr. Jenkins reports the following summary of club activities for the year.

Number of boys enrolled in club work	2,717
Total value of products grown by boys	$37,807.82
Average number of bushels of corn per acre	75.18
Average number of bushels of potatoes per acre	213.8
Average number of pounds gain per pig	211.71
Number of personal visits to club members by club agents	1,816
Number of miles traveled by assistant boys' club agents	29,481
Number of miles traveled by boys' club agent	10,894
Number of personal visits to clubs or schools for organization and instruction work by club agents	697
Number of official letters dictated by State boys' club agent	3,784
Number of official circular letters, instruction sheets and other miscellaneous circular material sent out to club members	17,800
Number of meetings attended by State agent	115
Approximate attendance	20,027
Number of stencils cut for circular material	129

AGRONOMY.

Mr. F. W. Oldenburg, specialist in charge of this project, which is supported by Smith-Lever funds, reports satisfactory progress in the various lines of agronomy extension work. He cites the following projects carried on during the year:

1. Giving addresses and demonstrations at Farmers' Institutes, Grange and Farmers' and Community Club meetings.
2. Judging farm crops at local and county fairs.
3. Co-operating with the county agents in conducting field demonstrations in crops and soil fertility, including corn, wheat and other grains, grasses, soy beans, vetch, alfalfa, cow peas and other legumes.
4. Introducing high yielding wheats and soy beans in co-operation with the Experiment Station.
5. Arranging for the distribution of good seed wheat in sections of the State where this crop was seriously injured by unfavorable weather.
6. Encouraging the use of lime and marl where needed, also encouraging the use of local products wherever possible.
7. Conducting grain grading demonstrations in co-operation with the U. S. Grain Corporation.
8. Preparing and displaying exhibits of Maryland high yielding wheats at county and community fairs, also arranging a large exhibit of Maryland corn and wheat at the International Grain and Hay Show, Chicago.
9. Supervising the wheat contest for which $4,500 was offered by Edwin G. Baetjer. (a) Greatest yield on 25 acres; (b) largest per cent. of farm planted to wheat; (c) largest yield on 10 acres devoted to wheat.
10. Preparing blanks and arranging for study of cost of growing wheat in State, also cost of growing tobacco. Answering correspondence and miscellaneous work..

The specialist, in co-operation with the agents, has urged increased acreage of wheat during the past three years to meet the demands of the war. The farmers responded and this year 811,000 acres were devoted to this crop, while only a little over 650,000 acres were devoted to this crop prior to the war. The yields in wheat have been increased by the introduction of high yielding varieties through the Experiment Station. Increased acreages of leguminous crops are reported from various counties, and an increased number of demonstrations have been secured. Cecil County reports an increase of 500 per cent. in soy bean acreage.

Grain Grading Demonstrations.

In co-operation with the U. S. Grain Corporation, a series of demonstrations were conducted with the view of showing farmers,

millers and grain buyers, the methods used in grain grading by the Federal authorities. Public meetings were held at Eklo, Elkton, Chestertown, Hurlock, Upper Marlboro, Rockville, Ellicott City, Belair, Frederick and Hagerstown.

The Wheat Contest.

In order to stimulate production in wheat, in the spring of 1918, Mr. Edwin G. Baetjer, State Food Administrator, offered $4,500 in prizes for the highest yield on 25 and 10 acres, respectively, also

Special Corn Breeding Work, Conducted by Howard Mann, Ellicott City, in Co-operation With the County Agent.

for the highest per cent. of land devoted to wheat on farms in the State. An instrument for measuring exactly 1/5000 of an acre was designed by the agronomist. Samples of wheat were taken from 10 different sections of fields and sent to the College, where they were dried and threshed. In addition, the threshing records were secured as check. Announcement of the awards will be made in the near future.

The specialist is aiding in securing data on the cost of growing various crops, especially wheat and tobacco. He has also prepared a summary of crop statistics which is included in this report.

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for the highest per cent. of land devoted to wheat on farms in the State. An instrument for measuring exactly 1/5000 of an acre was designed by the agronomist. Samples of wheat were taken from 10 different sections of fields and sent to the College, where they were dried and threshed. In addition, the threshing records were secured as check. Announcement of the awards will be made in the near future.

The specialist is aiding in securing data on the cost of growing various crops, especially wheat and tobacco. He has also prepared a summary of crop statistics which is included in this report.

Mr. Oldenburg submits the following summary of his activities:

Farmers' institutes	62
Addresses at farmers' institutes	94
Addresses at granges and farmers' clubs	40
Total number of addresses	134
Number present at institutes	5,569
Number present at other addresses	2,462
Number present at grain grading demonstrations	615
Total at meetings addressed	8,446
Demonstrations visited and conferences held with demonstrators	69
Miles traveled by railroad	10,746
Miles traveled by auto	3,947
Letters dictated (approximate)	600
County fairs judged	5
Community fairs judged	14
Grain grading demonstrations and exhibit of high yielding wheats	10

MARYLAND CROP STATISTICS.

Corn.

Year.	Acres Harvested.	Yield per Acre.	Total Production, Bushels.	Total Value.
1909	647,000	27	17,911,000	$11,015,000
1916	675,000	39	26,325,000	23,429,000
1917	700,000	39	27,300,000	38,220,000
1918	686,000	35	24,010,000	32,414,000
1919	693,000	41	28,413,000	39,778,000

Wheat.

Year.	Acres Harvested.	Yield per Acre.	Total Production, Bushels.	Total Value.
1909	589,000	16	9,463,000	$9,876,000
1916	650,000	16	10,400 000	17,784,000
1917	675,000	17	11,475,000	23,753,000
1918	732,000	15.5	11,346,000	24,848,000
1919	790,000	13.5	10,665,000	22,930,000
1920 *	.....	.....	.....	.....

*746,000 acres sown in the fall of 1919.

Hay.

Year.	Acres Harvested.	Yield per Acre.	Total Production, Tons.	Total Value.
1909	398,000	1.20	477,000	$6,011,000
1916	465,000	1.48	688,000	9,632,000
1917	442,000	1.25	552,000	10,985,000
1918	473,000	1.35	639,000	17,125,000
1919	450,000	1.40	630,000	15,120,000

Oats.

Year.	Acres Harvested.	Yield per Acre.	Total Production, Bushels.	Total Value.
1909	49,000	23.6	1,160,000	$584,000
1916	46,000	29.5	1,357,000	828,000
1917	47,000	31	1,456,000	1,093,000
1918	60,000	33	1,980,000	1,703,000
1919	65,000	28	1,820,000	1,492,000

Barley.

Year.	Acres Harvested.	Yield per Acre.	Total Production, Bushels.	Total Value.
1909	4,494	31	135,000	$79,000
1916	6,000	32	192,000	140,000
1917	5,000	25	125,000	162,000
1918	6,000	31	186,000	223,000
1919	6,000	33	198,000	244,000

Buckwheat.

Year.	Acres Harvested.	Yield per Acre.	Total Production, Bushels.	Total Value.
1909	10,398	14.7	152,000	$99,216
1916	10,000	19	190,000	209,000
1917	11,000	21	231,000	381,000
1918	14,000	20	280,000	462,000
1919	14,000	23	322,000	499,000

Rye.

Year.	Acres Harvested.	Yield per Acre.	Total Production, Bushels.	Total Value.
1909	28,000	12.7	357,000	$252,000
1916	23,000	15.5	356,000	392,000
1917	25,000	16	400,000	672,000
1918	30,000	15	450,000	765,000
1919	30,000	14	420,000	685,000

White Potatoes.

Year.	Acres Harvested.	Yield per Acre.	Total Production, Bushels.	Total Value.
1909	39,299	87.6	3,444,000	$1,782,000
1916	43,000	95	4,085,000	5 433,000
1917	60,000	100	6,000,000	7,140,000
1918	50,000	80	4,000,000	4,300,000
1919	55,000	94	5,170,000	6,721,000

Sweet Potatoes.

Year.	Acres Harvested.	Yield per Acre.	Total Production, Bushels.	Total Value.
1909	7,956	133	1,065,000	$483,000
1916	9,000	126	1,134,000	998.000
1917	10,000	118	1,180,000	1,180,000
1918	11,000	130	1,430 000	2,121,000
1919	12,000	140	1,680,000	2,234,000

Tobacco.

Year.	Acres Harvested.	Yield per Acre, Pounds.	Total Production, Pounds.	Total Value.
1909	26,072	685	17,845,000	$1,457,000
1916	25,000	770	19,635.000	3.142,000
1917	28,000	790	22,738,000	4,519,000
1918	30,000	830	23,738,000	7,121,000
1919	29,000	675	18,575,000	5,872,000

Summary.

The value of these 10 crops was 72 per cent. of the total value of all crops in 1909. The value has increased from $31,639,251 to $95,576,000 in 1919, or 302 per cent.

Year.	Acres in All Crops.	Acres Occupied by These Crops.	Total Value of the Ten Crops.
1909	1,934,954	1,799,219	$31,639,251
1916	2,105,000	1,952,000	61,987,000
1917	2,160,000	2,003,600	88,105,000
1918	2,254,000	2,092,000	91,082,000
1919	.....	2,144,000	95,576,000

ANIMAL HUSBANDRY.

Dr. S. S. Buckley, Extension Animal Husbandman, U. S. Department of Agriculture, in co-operation with the Service, reports splendid results in the encouragement of the swine industry of the State. He has developed an increasing interest in pure bred hogs, and the preservation of home-cured meat.

The specialist has rendered able assistance in farmers' institute work, community meetings and various other farmers' gatherings.

Livestock field meetings were held at six places in Washington, Frederick and Howard Counties. These meetings were held in the barnyards and stables where animals were brought together from nearby farms. The animals were then critically compared and judged. Farmers were requested to place the animals after a general discussion of points had been given, and then the specialist would place them and give the reasons for such placing.

The Pure Bred Duroc Hog Sale at Fallston, Md., was the beginning of what is destined to become a potent factor in extending pure bred hogs on the farms of Maryland. Other sales are contemplated for 1920, in which other breeds will be offered.

National Ham and Bacon Show.

One of the most popular, and it is believed to be as well, one of the most valuable constructive phases of livestock Extension work resulted from the competition at the National Ham and Bacon Show held at Des Moines, Iowa, September 29 to October 4. Through the efforts of Dr. Buckley, 41 pieces of meat were gathered from the farmers in various parts of Maryland, and placed on

exhibit at the National show. Of the 15 prizes awarded for hams, Maryland meat secured 14, and of the 5 prizes awarded for bacons, Maryland secured 3. This exhibit was returned to Maryland and exhibited at six county exhibits, where it developed considerable interest in methods of curing meats and preparing meat products.

Home Cured Meat.

To further this work, a series of meat cutting and curing demonstrations were put on in conjunction with the home economics department of the Service, who conducted simultaneously, meat canning demonstrations.

The immediate purpose of these demonstrations is to cause the more general use of the best methods in curing meats, preparing meat products and canning of the surplus fresh meats when it is abundant, for use at the time of the year when fresh meats are hard to secure.

Pure Bred Pig Clubs.

The specialist has aided the boys' club workers in securing pure bred pigs for breeding purposes. The pure bred breeding projects, now being successfully conducted, will prove to be a decided benefit to the hog industry of the State.

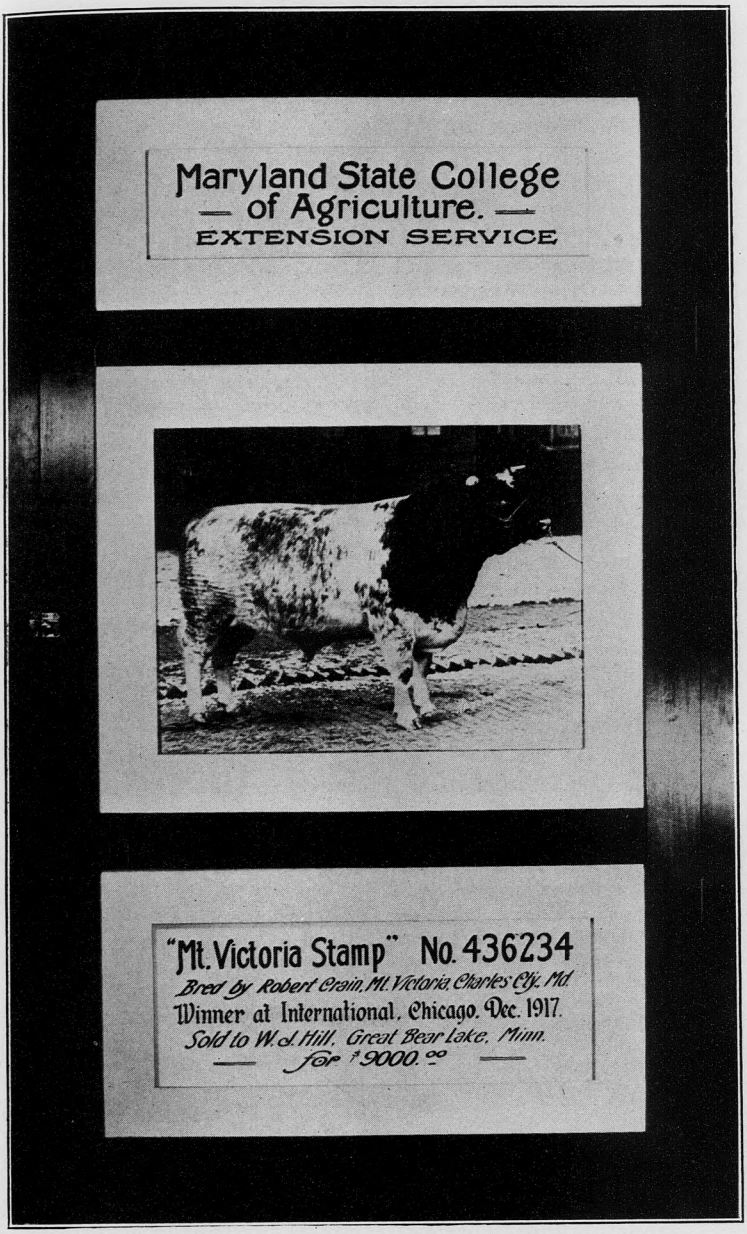
It is safe to predict, that Maryland will never go back to the point of so few good types of pure bred hogs, as were to be found throughout the State, less than five years ago.

Dr. Buckley has devised a plan for encouraging better livestock through the display of photos on well-bred animals in various public places in rural sections, such as hotels, court houses, etc. The display frame is constructed so that changes in pictures and legends can be made from time to time. The showing of these well bred animals produced in the State will stimulate farmers to emulate others in improving their stock. (See illustration, page 41.)

When available funds permit, the service desires to place these display frames throughout the State. The photos will be changed at regular intervals so as to show the various breeds and types.

The specialist submits the following summary of his activities:

Number of addresses delivered at farmers' institutes	82
Number of addresses delivered at community meetings	14
Number attending meetings addressed	8,325
Conducted meat cutting and curing demonstrations	9
County fairs assisted at	5
Prepared and exhibited cured meat display at county fairs	6
Miles traveled	14,729


Maryland State College
— of Agriculture. —
EXTENSION SERVICE
"Mt. Victoria Stamp" No. 436234
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Winner at International, Chicago. Dec. 1917.
Sold to W. d. Hill, Great Bear Lake, Minn.
for $9000.00

A Wall Cabinet for Displaying Photos of Animal Types.

General Work.

Mr. T. E. McLaughlin, District Agent, has also served as specialist in horses, mules and beef cattle. Little definite work has been accomplished. Mr. McLaughlin's duties in supervising agents have prevented his devoting much time to this line of work.

He has consulted with the agents in general animal industry problems; given several lectures and demonstrations in the judging and selection of horses. A demonstration of the multiple hitch was given at several meetings, and emphasis has been placed upon the economical use of horses on the farm. Little work has been done with beef cattle, except to advise concerning feeding and management.

Mr. McLaughlin aided in conducting the milk cost survey and other miscellaneous livestock work. Assistance has also been rendered in this work by Dr. Reed, Dr. Meade and Prof. J. A. Gamble, of the College Division of Animal Industry.

The summary of Mr. McLaughlin's work is given under project No. 4.

Hog Cholera Control.

A full report of the hog cholera control work will be given by Dr. R. C. Reed, Chief of the Livestock Sanitary Section of the State Board. The county agents and specialists have co-operated with Dr. I. K. Atherton, and his associates, Dr. Cass, Dr. Cole and Dr. McLaughlin, of the U. S. Department of Agriculture, in the suppression of this disease, to keep the loss from this disease down to the minimum.

A summary of the hog cholera work, conducted in co-operation with our agents, is submitted by the Inspector in Charge:

Number of meetings held	109
Number in attendance	5,740
Number of vaccination demonstrations held	220
Number attending demonstrations	2,125
Number of farmers' special organizations to control disease	298
Number of membership	6,591
Number of bulletins distributed	25 000
Number of farms visited by inspectors	1,427
Number of persons given special instruction	2,177
Number of miles traveled by members of force	45,411

HORTICULTURE.

Mr. S. B. Shaw, in charge of this project, which is supported by Smith-Lever funds, has continued the work during the past year along lines previously reported. Special emphasis has been placed upon demonstrations in pruning, general culture, use of fertilizers and community work. Many testimonials are submitted by the

specialist of direct results accruing from advice and demonstrations conducted in home, as well as commercial orchards. Some attention was given to home gardens, but demand for this work was much less the past year than during the war period.

Short Courses and Field Meetings.

Nine community short courses in Horticulture were given by the Specialist in co-operation with the county agents. These meetings and demonstrations proved popular, and there continues a larger demand for them. In addition, 43 special field meetings have been held, where instruction was given in pruning and culture of the orchard. The Specialist attended 81 meetings of growers and addressed 67.

Special Apple Film.

Through the co-operation of the States Relations Service, U. S. Department of Agriculture, it has been possible to have prepared a motion-picture film, visualizing Extension activities in relation to the apple industry. This is the first film of its kind to be taken and released by the Department.

The film shows the various operations in the planting, culture, spraying and harvesting of fruit. The scenario was arranged by Mr. Shaw, and the film depicts actual developments in this State with true characters. Special credit is due Mr. A. J. Hanson, of Ellicott City, and county agent T. L. Smith, and all others who heartily co-operated in producing the film. The apple film will be shown in many States this winter at various horticultural meetings. Mr. Shaw devoted much time to securing this film.

Miscellaneous.

The Specialist reports a survey in the maple sugar industry of the State. He has co-operated in the preparation of material for Boys' Club Work, also with other Specialists in joint projects. One demonstration was conducted in raising potatoes in Frederick County. Forty-three conferences and 143 direct interviews were held on horticultural matters. As Secretary of the State Horticultural Society, Mr. Shaw has increased the membership and arranged for the summer and winter meetings.

The following summary is given:

Pruning demonstration field meetings	43
Total attendance	681
Meetings attended, but not addressed	14
Meetings addressed	67
Total attendance	4,278
Visits to orchard demonstrations	28

Visits to other orchards	89
Visits to gardens	153
Conferences attended	33
Interviews on horticultural work	142
Community short courses in horticulture	9
Boys' club conferences addressed	2
Total attendance	51
Community shows judged	7
Miles traveled by rail	12,144
Miles traveled by automobile, boat and electric line	4,237

Potato Test Plots on the Knieriem Farm Along the Potomac River, West of Cumberland, Allegany County.

HOME GARDEN WORK.

Mr. W. R. Ballard was employed for the first six months of the year as Specialist in home gardening. The project was supported mainly by U. S. Department funds. A reduction in funds caused a suspension of the project. With the signing of the armistice, there was a noticeable decline in enthusiasm on the part of garden organizations. Many of them disbanded, and others turned their efforts into other channels. The high cost of living, however, kept the majority of individual gardeners interested in the production of food crops. In only a few sections was any effort made in an organized way to stimulate production in home gardens in the spring of 1919.

In Allegany County, the work was continued by the Home Garden Association. Ten thousand members was the goal set for enrollment. The work of organizing was done largely through the public schools. W. C. Powell rendered valuable work during the

war period, and since in supervising this work in and around Cumberland.

In Washington County, the county agents in co operation with the Peace Garden Association, continued the garden work with these objectives. 1. Park gardens; 2. County school gardens; 3. Industrial gardens; 4. Canning clubs, and 5. City school gardens.

In Baltimore city the work was continued under the control of the women's civic league. Thirty community gardens were supervised by the Specialist and agents.

Mr. Ballard prepared a suitable home garden record book, which was published by the Service, and will be of use for all future work in home gardens. He attended many meetings of farmers and gardeners, giving lectures and demonstrations. Considerable time of the Specialist was devoted to preparing plans for demonstrations in landscape gardening. Detailed plans were drawn, and planting lists made up for a number of schools and individuals. There is a large demand made upon the Service for landscape demonstration work. It was with much regret that we were compelled to suspend this project.

The following summary for six months is submitted by Mr. Ballard:

Number of addresses delivered	36
Total estimated attendance	1,537
Visits to agents	31
Visits to gardeners	41
Landscape plans drawn	26
Gardeners advised as to proper improvement of home grounds	11
Number of letters written	141
Number of bulletins distributed	1,700
Number of miles traveled	4 369

DAIRY HUSBANDRY.

This project is supported by Smith-Lever funds in co-operation with the U. S. Bureau of Animal Industry. Mr. G. E. Wolcott is in charge of this project.

Cow Testing Associations.

During the year, with the help of county agents, four cow testing associations were organized:

The Howard County Cow Testing Association.

The Frederick County Cow Testing Association.

The Talbot County Cow Testing Association.

The Montgomery County Cow Testing Association.

High school students were trained at the College for the Associations in Montgomery and Howard Counties. Their work is prov-

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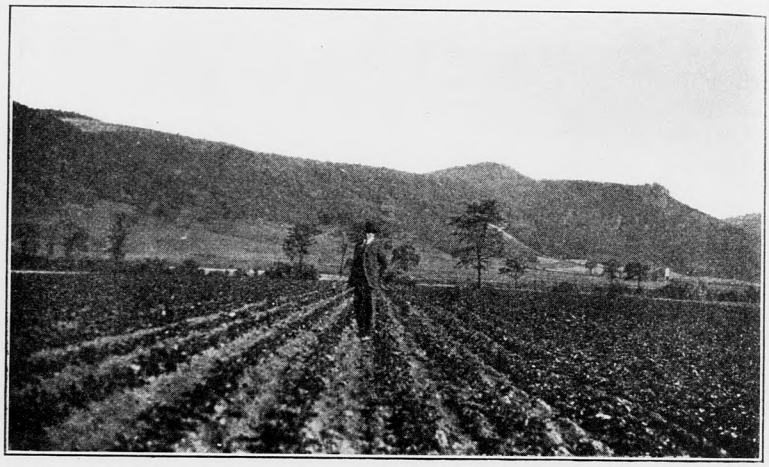

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ing satisfactory. During the next year, associations will be organized in Kent, Queen Anne and Carroll Counties, and possibly one in Washington County.

Bull Associations.

The community breeding demonstrations at New Windsor with eight bulls, and in Kent County with three bulls are progressing, and high class sires are being used.

Pure bred Guernsey bulls have been placed on the following farms as demonstrations in herd improvement: Henry Fuss, Union Bridge; J. R. Metcalfe, Union Bridge; J. L. Cowger, Princess Anne; John Hargett, Germantown.

Arrangements were made with the Dairy Division, U. S. D. A., for the use of a pure bred Holstein bull on the farm of Whiteford Bros., Whiteford, Md.

Individual Herd Record.

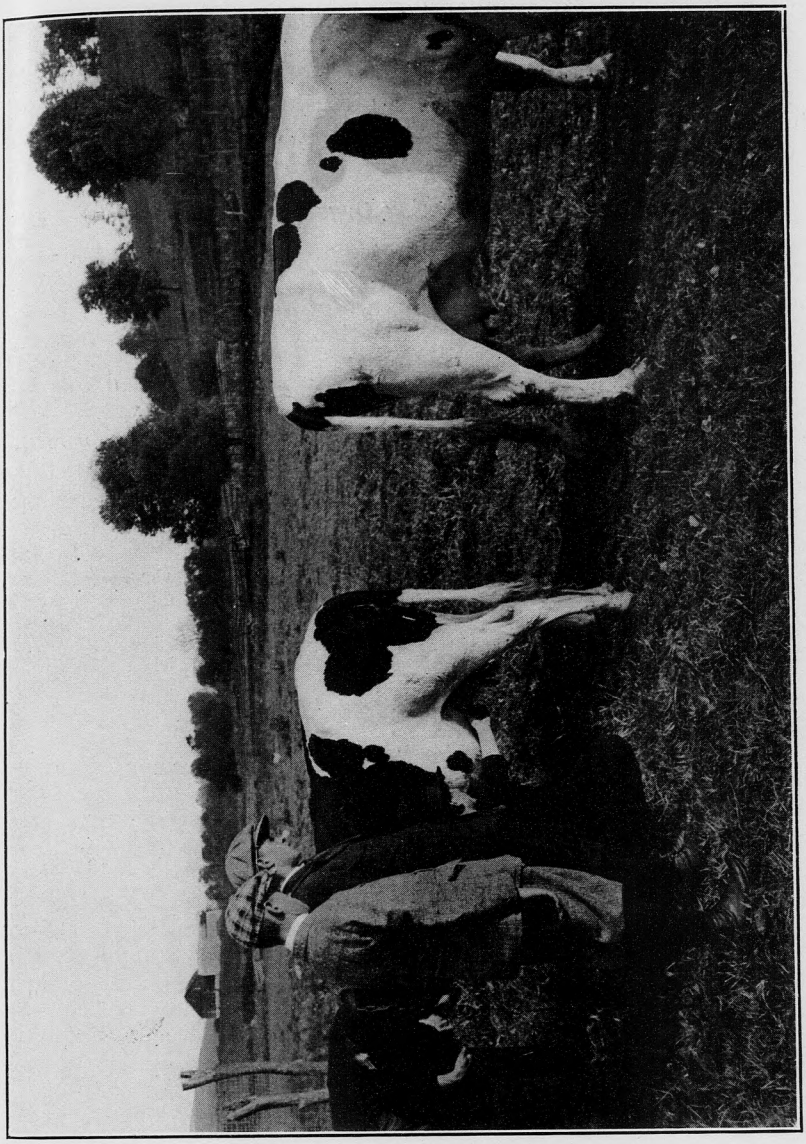
Forms and instructions have been furnished farmers for the purpose of keeping individual records as follows: J. L. Crowgrey, Elkton; Elkton Farm, Elkton; D. S. Pearce, Sparks; J. E. Stonebraker, Hagerstown; Isaac Brear, Hagerstown; D. H. Staley, Breatheds; Lawrence Smith, Cumberland; W. H. Johnson, Cumberland; A. C. McLuckie, Cumberland.

Cattle Purchased.

In July a trip was made to Howell, Michigan, to assist in the purchase of 64 pure bred Holsteins for farmers in Talbot and Caroline Counties. The shipment included 6 young bulls and 58 heifers and cows. Help was also given in purchasing three bulls and one heifer for farmers in Queen Anne County. A pure bred Guernsey sire was also purchased for Robert Teunnant, of Frostburg.

Silos and Barns.

Help was given in the construction of concrete silos on the farms of A. F. Minkin, Duley, and R. N. Stevens, Baltimore County. The forms which were constructed for H. B. Getty in 1914, were used this season in constructing a concrete silo on the farm of G. H. Hibberd, New Windsor. The concrete silos on the farms of Messrs. Hibberd and Stevens were coated on the inside with raw coal-tar to make them air-tight. Paraffin, dissolved in gasoline, was used to coat the inside of the silo built at Duley, the object being to demonstrate which treatment is the more effective in making the silo air-tight. Assistance was given in locating a stave



Showing the Difference in Type.
(Photographed in co-operation with States Relations Service, U. S. D. A.)

silo and remodeling a barn on the farm of A. B. Highley, Trappe. At Princess Anne, plans were drawn for building a partition in the stave silo on the farm of Norman Pusey.

Judging Contests.

At the Frederick Fair, $100 was given in prizes for the students' judging contest. There were 37 entries. A judging contest was held at the Wolfskill picnic with five entries.

Work with Dairy Organizations.

Considerable time has been devoted to work with the Maryland State Dairymen's Association in attending meetings and working out cost of milk production by the use of formulas. Help was also given in bringing about the organization of the Tri-State Sanitary Milk Co., at Cumberland.

The Specialist has prepared the following articles for the "Maryland Farmer:"

"Where does Profit Start;" "Is 5,500 Pounds the Limit;" "Silos and Silage;" "High Production Most Profitable;" "Good Bulls Prove Their Worth in Carroll County;" "Barn Construction;" "Winter Rations for Dairy Cows."

The following summary is given:

	Number.	*Number Present.*
Farmers' institutes	60	3,155
Cow testing associations	3	44
Bull clubs	3	16
Farmers' clubs	56	283
Grange	1	25
Cow judging demonstrations	2	800
Dairymen	14	1,464
Dairymen	5	1,520
	94	7,307
Farm visits	210	.....

RURAL ORGANIZATION AND MARKETING.

Dr. F. B. Bomberger, Assistant Director and Specialist, in charge of this project, which is supported mainly by Smith-Lever funds, reports a growing interest in the problem of marketing of farm products and splendid growth in rural organization work in the State. A great deal of the Specialist's time has been devoted to administrative work, attending conferences, supervising agents and otherwise aiding in the direction of the work of the Service.

Marketing.

Limited funds have prevented a vigorous prosecution of Extension work in marketing. We should be able to have one or more men

devote all of their time to this important problem. However, much progress has been made in assisting various groups of producers in marketing their products. As mentioned in the introduction, this is a problem that must be approached after a study of all the factors surrounding a given industry.

Marketing Surveys.

The good results from the work of Prof. P. R. Brookens last summer in making a preliminary survey of the plans of marketing certain perishable crops in this State, led us to believe that there was room and opportunity for a continuation of the survey. Accordingly, during the month of August, arrangements were made with Prof. T. B. Thompson, of the Department of Economics of the College, to make a first-hand study of matters and conditions pertaining to the marketing and distribution of certain fruits and vegetables in Baltimore city. The object was to get acquainted with the actual processes involved in the marketing of home grown fruits and vegetables in this section of Maryland. This seemed to be important, in view of the fact that in one market alone (Center Market), in that city, the fruit and vegetables sold during the season of 1919 amounted to more than $5,000,000.

Dr. Thompson has submitted a most valuable report of his investigations, which we hope to print and distribute to the people of the State. It is evident, from this report, that the marketing of perishable commodities like fruits and vegetables under conditions existing in a large city such as Baltimore, is a highly complicated problem.

Further work should be done along this line, because without such data, efforts to provide machinery for marketing such products are very apt to go wrong.

Co-operative Marketing.

In many sections of the State, farmers are looking with more favor than formerly upon the plan of co operative marketing of farm products. It is much easier to organize associations for co-operative buying than co-operative selling. Both of these aspects of the marketing problem deserve more careful consideration than they have been receiving. Our effort has been, and will continue to be, the development of these projects, conservatively, in order that there may be no failure through faulty organization or inefficient management.

The county agents report that more than four and a half millions of dollars worth of business was done by farmers during the past year through co-operative buying of farm supplies, and co-operative selling of farm products.

The Specialist reports attending many conferences with individuals and organizations on this subject. He has aided in the organization of the Harford County Seed Corn Growers' Association, The Tri-State Dairy Company of Cumberland and the Maryland Tobacco Growers' Association during the past year.

Harford County Seed Corn Growers' Association.

For a number of years, the growing of seed corn has been a profitable business by certain growers in different parts of the State. A number of corn breeders in this county have developed

Harford County Seed Corn Growers' Exhibit at Hagerstown.

types of corn that were of unusual excellence. As the business developed, it became more and more evident that there should exist some kind of organization, to standardize the product of the growers in the county, so that only corn of proper type and quality should be sold.

The leading growers, with the county agent, applied to the Service for assistance, and the Specialist furnished a plan of organization to accomplish the desired end. The association was formed and incorporated. The essential feature of the association is that it establishes rules and regulations concerning the types of

corn to be grown, the methods of growing the corn, standards of purity to be maintained by inspection of the product, and in addition, the seed purposes. This is reported somewhat in detail, as it is considered an important step forward in co-operative marketing. It follows the same principles adopted by the Western Maryland Seed Potato Growers' Association, which was formed last spring by the assistance of the Service.

Re-organization of the Maryland Tobacco Growers' Association.

For a number of years, there had existed a loosely formed organization of the producers of tobacco in Southern Maryland. Prior to the war, conditions surrounding the industry were very unsatisfactory. The high prices received during the war period, and a subsequent tendency towards a reduction in the price of Maryland tobacco, as compared with prices received in other tobacco sections of the country, caused the growers to seek assistance through organization for improving the methods of culture, grading, packing and marketing of the crop.

During the past summer, the tobacco growers requested aid from the Service, in formulating a plan of organization to meet the above need. Dr. Bomberger prepared plans, in consultation with the Bureau of Markets, for the organization of the tobacco growers, following the same general principles adopted in the organization of the State Dairymen and other similar organizations in the State.

The Extension Service has rendered every practical aid in promoting the organization of the growers, and it is believed that the organization in the several counties will mean much towards improving the conditions surrounding the production and marketing of this important crop.

Farm Loan Associations.

The Specialist reports that the effort to establish county farm loan associations has been continued through the year, with the result that only one county on the Eastern Shore (Dorchester), and three on the Western Shore (Allegany, Carroll and Calvert), are without the services of these organizations. Joint associations have been organized to act for Queen Anne's and Kent Counties, and for Washington and Frederick Counties. There is a possibility that Allegany may be joined temporarily with the Garrett Association in the near future.

The Federal Land Bank of Baltimore has already loaned more than a half million dollars through the County Farm Loan Associations. Hence, the bank is becoming better known, and its beneficent influence is becoming more generally recognized. We will continue to assist the county agents in organizing the Farm Loan Associations until all counties of the State are represented.

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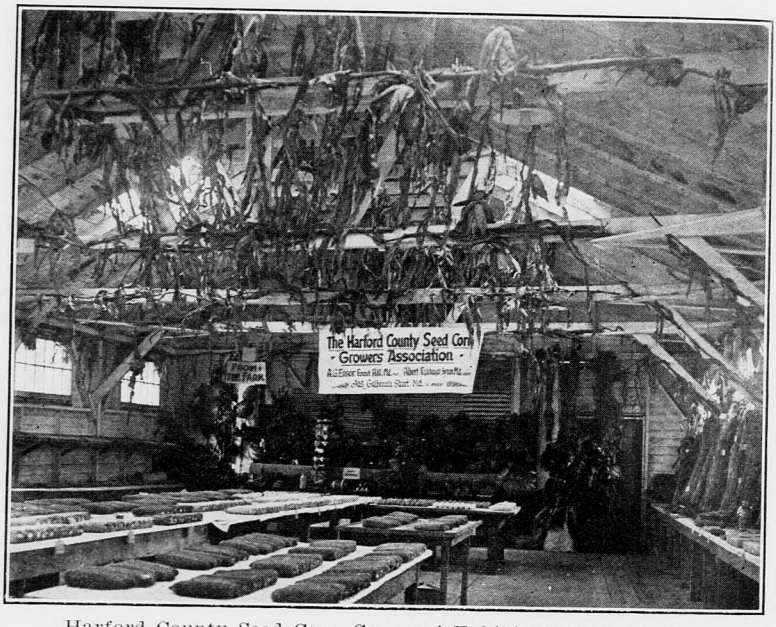

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Sheep Organizations.

As secretary of the State Sheep Growers' Association, Dr. Bomberger reports a slow but steady growth, and a constructive policy has been outlined as follows:

1. To organize more county associations.
2. To secure more members of the State Association.
3. To develop co-operative marketing of wool and lambs.
4. To secure adequate enforcement of the Dog Law.
5. To hold an annual wool exhibit.
6. To carry on a campaign of education through organization, to bring about better breeding and better care in the management of flocks.

Rural Organization.

I have discussed organization of farmers briefly in the introduction, but will repeat here the statement of the Specialist who has promoted this work in the State. Dr. Bomberger reports that in the field of rural organization, our policy has been one of continuation of the work already outlined and started, rather than of inaugurating new projects. Our ultimate goal is the organization of every county in the State upon a community basis; the federation of local community organizations into county-wide councils, or similar associations that shall be representative of all communities and of all interests, and the affiliation of these county federations or councils with the Maryland Agricultural Society, which is the State organization designed to be representative of the agricultural interests of Maryland.

In the field of local organization, gratifying progress has been made. Over 500 local rural organizations have been formed in the State. In four counties, formal federations of the local community organizations have been formed, while steps are being taken to federate the local organizations in a number of others.

Our aim is to emphasize the community as the unit of organization, rather than the individual. The county agents realize the value of organization, and are all working to develop new clubs, granges and associations as rapidly as local conditions will permit.

State Organization.

The Maryland Agricultural Society is a federation of State-wide Agricultural Associations. Affiliated with it, are the following:

The Maryland Horticultural Society.
The Maryland Crop Improvement Association.
The Maryland State Dairymen's Association.
The Maryland State Beekeepers' Association.
The Maryland Vegetable Growers' Association.
The Maryland Sheep Growers' Association.

Each of the foregoing organizations are represented on the council of the Agricultural Society, which council is the Executive Board of the Society.

At the annual meeting in December, the Constitution of the Society was so amended as to admit to membership county councils or county-wide federations of local community organizations of the several counties, and to admit such councils or federations to representation on the council of the Agricultural Society. In this way, machinery is provided for the representation of every local community organization of the State, through its county council or federation, in the deliberations of the council of the State-wide farmers' organization, the Agricultural Society. This represents a large step forward, and will doubtless do much to develop co-operative thinking and acting among the rural people of the State. The organization represents the agriculture of the State by industries, as well as on a community basis.

National Organization.

For sometime, there has been discussion of the question of forming the farmers of the whole nation into a single body, which would be representative of the entire industry. Already, there exists a number of organizations claiming the right to represent the farmers of the nation. Chief among these, are the National Grange, the National Board of Farm Organizations and the proposed American Farm Bureau Federation.

Without attempting to discuss the merits of their respective claims, it is obvious that three or more distinct organizations cannot speak for the American farmer, especially if they do not speak in the same key, or in accordance with the same general policy.

The officials of the Maryland Agricultural Society have been invited to affiliate with the National Board of Farm Organizations, but up to this time, have not done so. They have, however, conferred and co-operated with the National Board, whenever in their judgment such action has been wise. The Agricultural Society has expressed, by resolution, its desire to affiliate with any national organization which shall be truly representative of American Agriculture.

During the past year, there has been formed another farmers' organization of national scope, which is making a bid to be truly representative of the American farmer. This is the American Farm Bureau Federation, organized during November, in Chicago, Ill.

Recognizing the importance of this movement to the interests of Maryland farmers, the Assistant Director, in company with the Director and an official delegate from the Agricultural Society, attended the meetings at Chicago, and took part in the proceedings of organization.

It is yet too early to determine whether the interests of the Maryland farmers lie in the direction of affiliation with the Farm Bureau Federation or not. The Council of the Agricultural Society is studying the question, and should they become convinced that the best interests of Maryland agriculture and Maryland farmers can be conserved by affiliating with this organization, they will probably do so.

It is the aim of this Service to deliberate with the council, and to aid them in making a determination of this question, which we believe to be of vital importance to the farming interests of the State.

Miscellaneous.

In addition to the general work discussed, Dr. Bomberger has attended to the correspondence relating to farm opportunities, and given aid to prospective settlers in the State. He was asked to deliver a series of lectures on organizing the county before the annual conference of agents and farmers of Florida. He has also been in great demand for lectures and conference work in the State.

A summary of his work during the year is given under the project on county demonstration work.

POULTRY EXTENSION.

The poultry extension work is in charge of Mr. H. W. Rickey. The project is supported by Smith-Lever funds. Mr. Rickey reports special progress in the demonstrations conducted in the economical production of winter eggs, carried out on the farms, in different parts of the State in co operation with the county men and women agents. Thirty-four demonstrations were secured to conduct the demonstrations in feeding and handling their poultry according to the directions of the Specialists submitting weekly reports on egg laying last winter. More than 500 reports have been received on this work by the Specialist. A tremendous increase in egg production was secured by following instructions given. More than 75 demonstrators have been secured to follow this work this winter. These demonstrations must exert a favorable influence upon the neighborhood in which they are carried on. By this means, the Specialist and county agents are able to secure definite results from the work conducted.

After securing the confidence of the poultryman in one phase of the work, it is very easy to secure improvements in housing, incubation and selection of the flock.

In addition, the Specialist has aided the agents in various poultry problems, visiting many farms for consultation.

Farmers' Institutes and Moveable Schools.

There has been a great demand at farmers' meetings for poultry lectures and demonstrations. Mr. Rickey reports attending 65 institutes, and giving 86 lectures. He has attended and addressed various other grange and community meetings, assisted in the girls' club, poultry work, and visited a large number of co-operators in poultry work.

There is a great opportunity for developing the poultry industry in Maryland. The high price of eggs, as well as all kinds of fowl, makes this work of special interest to the rural, as well as urban people.

Mr. Rickey submits the following summary of his work:

Farm demonstrations in winter egg production for 1919 supervised..	39
Of which were carried out through the four months.....	24
Weekly reports of demonstrations examined.....	502
Letters of criticism and service.....	88
Demonstrations in winter egg production promised for 1919-1920..	84
Farms visited in interest of all demonstrations.....	133

	No.	*Attendance.*	*Avg.*
Total number of farmers' meetings, clubs and granges	20	740	37
Total number of institutes.....	65	4,465	52
Total number schools visited in interest of girls' and boys' clubs	20	525	26
Total number of meetings of all kinds.....	192 talks	119 all	
Total number of fairs and community shows....	6		
Total number of farms visited.....	206		
Total number of miles traveled by rail, boat or bus 7,137			
Total number of miles traveled by automobile....4,636			
Total number of letters written (circular letters not included).....	465		
Total number of letters received.....	365		
Total number of inquiries from and concerning poultry work	195		
Total number of letters requesting Circular No. 16 ("Feeding for Winter Eggs").....	104		
Total number of letters from various other States than Maryland	269		

Publications.

News items for College Journal.....	3
Instructive articles for newspapers.....	33
Revision of circulars—lessons, etc.....	1

FARM MACHINERY.

The shortage of farm labor has greatly emphasized the need of labor-saving machinery. There has been a great demand for information and assistance in various farm machinery problems. Mr. F. A. Wirt has been in charge of this work for the Service. He has rendered able assistance to our farmers and agents in this

work. It is with deep regret that we lose him January 1 to enter the business field. Mr. Wirt inaugurated our farm machinery Extension work two years ago, and has made great progress.

Tractor Schools.

Owing to the large number of tractors purchased during the past two years, every effort has been made by the Specialists and agents to give instruction as to their operation and care. To reach tractor owners in all counties, 11 tractor schools were conducted last winter from December 18, 1918, to March 19, 1919. The schools were held in various sections of the State, so that tractor owners from adjoining counties could attend. Much interest was manifested in the schools by farmers and dealers.

Demonstrations and Field Meetings.

A cultivator demonstration was held at the State College on May 30. This was the first demonstration of its kind held in the State. All modern types of cultivators adapted to the State were shown and used in the demonstration. About 8,000 farmers attended the field meeting. A special circular on corn cultivation was prepared by the Specialist, in co-operation with the Agronomist, for distribution at this demonstration.

Two very popular tractor demonstrations were held this year. One at Hagerstown, and the other at Cooksville, Howard County. A large number of different types of machines were shown at each place. An uncommon feature at the Hagerstown demonstration was the competition of a six-horse team with a white multiple hitch pulling a three-bottom plow. As a matter of policy, and in the interests of economy for all concerned, it is believed that only two State-wide tractor demonstrations should be held under the auspices of the Service, each year.

Five tractor field meetings were held, at which one tractor and one tractor plow with a dynamometer were used to show the effect of proper and improper hitch on the draft of the plow.

In all, nine tractor demonstrations and field meetings have been held by the Specialist and agents, with an attendance of 16,740 farmers.

Thresherman Schools.

In order to continue the work previously conducted by the Service, in co-operation with the grain corporation, in preventing waste of wheat at threshing, six thresher schools were held at different points in the State. Owners, operators and prospective buyers of threshing machines, dealers and farmers attended the schools. Practical information was given in the proper operation of threshing machines and other factors entering into this operation on the farm.

Co-operation with Implement Dealers and Manufacturers.

Splendid co-operation has been extended our Service by the farm implement dealers and manufacturers. The Specialist has visited these agencies, and secured their active support in launching the various projects which have increased the scope of Extension work in farm machinery. The implement dealers of the State held a meeting, in conjunction with the annual meeting of the Maryland Agricultural Society, and it is hoped that they will affiliate with

The Deerfield Community Club Entertained the Jefferson Grange at Its Annual Picnic.

the Society. The Service has received some splendid national publicity through the Implement Journals.

The following summary is submitted by the Specialist:

	Number.	*Attendance.*
Farmers' meetings addressed	18	906
Other meetings addressed	8	813
Out-of-State meetings addressed	6	670
Tractor schools held	11	1,138
Thresher schools held	6	105
Demonstrations held	9	16,740
Total		20,372
Miles traveled by railroad		9,433
Miles traveled by automobile		4,338
Total miles traveled		13,771

This project is supported by Smith-Lever funds.

ENTOMOLOGY.

Mr. E. N. Cory, State Entomologist, reports the Extension activities in zoology were centered largely in demonstrations for the control of insects of the peach, apple, pear, strawberry and miscellaneous crops; the 17-year cicada; mill insects; rat control; lectures before farmers' clubs; community organizations and schools on insect control, articles written for the press and the development of the beekeeping industry.

In most of the demonstration work, Mr. W. C. Travers carried out the work in the field to the satisfaction of all concerned. This project is mainly supported by State Horticultural funds, only a very small amount of Smith-Lever funds being devoted to the work.

Demonstrations on Control of Insects of the Peach and Apple.

Nine demonstrations on peach and apple spraying, which of necessity, included control of diseases as economically inseparable from insect control, were conducted. The following gives results from this work:

Orchard Number.	Number Peach.	Number Apple.	Baskets Peaches.	Barrels Apples.	Cost of Spraying.	Cash Return, Less Cost of Spraying.	% Perfect Fruit.		
							Peach.	Apple.	Check Trees Unsprayed.
1	.....	25	.....	13	$22.50	$25.50	.....	.....	.....
2	300	.....	584	.....	107.30	735.30	93	.....	.....
3	1 000	.....	16,000	.....	265.00	3,558.38a	93	.....	31
4	350	.....	695	.....	145.70	595.85b	78	.....	41
5	1,500	9,000	8,808	843	1,544.18	10,878.98c	.....	.....	.....
6	3,000	9,000	18,000	3,000	962.87	22,375.00d	.....	.....	.....
7	1,500	.....	3,220	.....	232.75	3,172.87	90	.....	20
8	1,450	.....	2,700	.....	182.60	2 340.75	92	.....	12
9	7,000	7,000	21,200	.....	790.75	5,116.20e	82½	.....	16
.....	.....	.....	.....	.....	.....	$48,818.83	.....	.....	.....

a. Owing to railroad embargo at the time of ripening, the profits from this orchard were cut at least half.

b. Half of this orchard was sprayed, and half dusted. Seventy-six per cent. clean fruit on the dusted. Three applications only.

c. Additional spraying of self-boiled lime sulphur, plus 2½ pounds of copper sulphate and three pounds of lime, August 14, added somewhat to the spraying cost. Four thousand in bearing, all sprayed.

d. Two thousand cherries; 654 carriers sold.

e. Apple trees were sprayed or dusted, though they did not set any fruit, thus adding to the cost. Embargo on shipments reduced the profits considerably. Dusted fruit showed 48 per cent. clean fruit. One thousand trees were dusted. This grading was done very carefully, and many of the insect and disease marks did not affect the packing grade, which ran 98½ per cent. No. 1 for the sprayed fruit and 91 per cent. No. 1 for the dusted fruit.

Strawberry Weevil Control.

The strawberry weevil has developed into a pest of the first magnitude in the strawberry growing sections, and demonstrations were held in four counties of the dust method of control. After two years' experimental work, no better dust mixture than the 85 per cent sulphur and 15 per cent. arsenate of lead has been developed, so that mixture was depended upon for this work with eminently successful results.

In some instances it was impossible to get the growers to keep accurate records of yields on the dusted and check plots, but the opinions of the farmers upon the value of the applications is herewith given. However, in a few cases, exact records on measured plots show remarkable results in each instance. A conservative estimate of the cash return to the growers in the four counties above what would have been received had no dusting been done, is placed at $70,000.

Somerset County.

Yield per acre on dusted plot, 6,101 quarts at 25 cents	$1,525.25
Yield per acre on check plot, 4,066 quarts at 25 cents	1,016.50
	$508.75
Cost of dusting per acre, including material, freight and labor, two applications at $10.25 each	20.50
	$488.25

Caroline County.

Yield per acre on dusted plot, 2,500 quarts at 25 cents	$625.00
Yield per acre on check plot, 900 quarts at 25 cents	225.00
	$400.00
Cost of dusting per acre, including material, freight and labor, two applications at $10.25 each	20.50
	$279.50

SUMMARY OF OPINIONS OF THE VALUE OF DUSTING.

Worcester County.

E. T. Brithingham, Bishopville, Md.—Made two applications of 80-20 on most of his field, leaving out the balance as a check. On dusted plots he picked 2,800 quarts per acre, while on the check plot he picked practically nothing.

J. A. Satchum, Berlin, Md.—Made two applications of 80-20 just previous to blossoming time, leaving a check to determine the benefits derived from the dusting. On dusted plots he picked 1,984 quarts per acre, while the crop on the check plots was a complete failure.

Wicomico County.

J. W. Smith, Pittsville, Md.—Dusted 3½ acres, 85-15, bought and separately mixed. Used 80 pounds per acre. Two applications. Approximate increase from dusting, 30 per cent.

J. W. Brittingham, Pittsville, Md.—Dusted six acres, 85-15, bought separately and mixed. Used 75 pounds per acre. Two applications. Approximate increase from dusting, 33 per cent.

McCoy Ennis, Pittsville, Md.—Dusted two acres, 85-15, bought separately and mixed. One application, using 80 pounds per acre. This dusting was followed by heavy rains. The approximate increase was about 15 per cent.

Frank Watson, Fruitland, Md.—Had a three-acre patch, sprayed two acres, leaving one acre for check; used 85-15; two applications. Picked over twice as many berries per acre on dusted part.

William Dennis, Pittsville, Md.—Used 85-15. One application at the rate of 75 pounds per acre, and although very late in the season, one could see marked benefits from its use at picking time.

Joshua Downes, Pittsville, Md.—Used 85-15, and though the application was made late, Mr. Downes reports the benefits "wonderful," stating he would use it on all plots next year.

Somerset County.

Paul Gunby, Marion Md.—Reports that he had 12 acres in strawberries, from which he sold 1,800 crates for $15,300, and estimates the value of dusting to be considerably over 30 per cent. of the yield. He states that at the lowest estimate, the dust gave him a profit of $4 500, less cost of duster, $70; dust, $115; labor, $15; leaving him a net profit of $4,300 on his dusting operations.

Joe Sandon, Marion, Md.—Three and one-half acres, one application, 75 pounds per acre, used 85-15. Yield double on dusted plot.

Charles Cluff, Marion, Md.—Three acres, one application, 75 pounds per acre, used 85-15. Yield nearly double on dusted plot.

William J. Hall, Marion, Md.—Two and one-half acres, two applications, 50 pounds per acre, used 85-15. Yield double on dusted plot.

E. W. Coulborn, Marion, Md.—Seven acres, one application, 50 pounds per acre, used 85-15. Yield one-third more on dusted plot.

Caroline County.

William Seward, Ridgely, Md.—Sixty acres, two applications, 50 pounds per acre of 85-15. Increase, 30 per cent.

B. Saulsbury, Ridgely, Md.—Fourteen acres, two applications, 50 pounds per acre, 85-15., Increase, 50 per cent.

Milton Smith, Ridgely, Md.—Twelve acres, one application, 50 pounds per acre of 85-15. Increase, 30 per cent.

Tom Jones, Ridgely, Md.—Forty-two acres, two applications, 50 pounds per acre of 85-15. Increase, 40 per cent.

S. Lapham, Goldsboro, Md.—Ten acres, two applications, 100 pounds per acre of 85-15. Increase, 50 per cent.

H. M. Carroll, Federalsburg, Md.—Nine acres, two applications, 50 pounds per acre of 85-15. Increase, 30 per cent.

Control of Pear Psylla.

One demonstration on a Keiffer pear orchard served to show how this insect may be kept in check. The orchard consisted of 1,000 trees. It was sprayed twice—one half with scalecide, 1 to 15, and the other with concentrated lime sulphur. Good results were sesured from each solution. Further work will be done on this pest.

The Periodical Cicada.

The 17-year cicada, or locust, appeared in 13 counties of the State the past year. A demonstration of the method of wrapping young trees with tobacco cotton cloth was made in one orchard with excellent results. In some counties, injury to fruit trees from the insect was severe, while in other sections it was very slight. A special bulletin was prepared by the Entomologist, and distributed.

Miscellaneous Work.

Demonstrations were made, and advice given by letter, and in personal visits on the control of a wide variety of insects, among which may be mentioned the melon aphis, army worm, corn stalk borer, wheat joint worm, etc. One demonstration of the fumigation of a flour mill to kill grain pests by hydrocyanic acid gas, proved the value of the method to the owner, saving him a considerable sum. Demonstrations in rat control were conducted by Mr. C. J. Pierson in co-operation with the county agents with good results.

Mr. Cory, as Secretary-Treasurer of the State Beekeepers' Association, has made a successful effort to revive the interest and enthusiasm of the members in the beekeeping industry. Two field meetings were held with an attendance of about 50 on each occasion.

Mr. Cory was successful in securing about 4,000 pounds of sugar for the industry, through the sugar equalization board. A successful annual meeting was held at Hagerstown.

The following summary is submitted by Messrs. Cory and Travers:

W. C. Travers.

Miles traveled by rail	4 874
Miles traveled by boat	1,362
Miles traveled by livery teams	136
Miles traveled with own car	6,909
Miles traveled by car, for which no charge was made	2,320
Total	15,601
Orchard and farm visits made	967
Addresses at farmers' meetings, community clubs	14
Number of demonstrations	49
Nursery and greenhouse inspections	64
Insecticides tested out	8
Flour mills fumigated	1

E. N. Cory.

Farm visits	118
Lectures	12
Meetings	24
Inspections of nursery stock	18
Visits to work of assistant	14
Correspondence	1,657
Bulletins and press articles	11
Miles traveled	5,778

PLANT PATHOLOGY.

This project is in charge of C. E. Temple, State Pathologist. It is supported mainly from State Horticultural funds. A small amount of Smith-Lever funds has been devoted to the project.

The very unfavorable weather conditions on the Eastern Shore, during the summer, seriously interfered with the tomato investigations and demonstrations for control of diseases of this crop. A series of tests in spraying have been conducted for several years, with a view of seeking the best means of controlling the tomato blight.

A large quantity of wilt resistant seed was distributed to growers for demonstrations. The failure of the tomato crop on the Shore this year rendered the records kept useless. Prof. Temple has probably conducted more extended demonstration work in the control of diseases of the tomato, than any other Specialist in the country. This work will be continued in 1920.

The Specialist aided in the farmers' institutes, community meetings and fairs, by giving addresses and demonstrations in the control of various diseases. He has continued the work in Western Maryland with the potato growers in the production of certified seed. A survey of the State was made in co-operation with the U. S. Department officials for the occurrence of nematode disease on wheat and the potato wart disease. The latter was discovered in Pennsylvania and West Virginia, but as yet it has not been found in Maryland.

Considerable miscellaneous demonstration work has been conducted in co-operation with the county agents for the control of diseases affecting fruits and other crops. The Specialist has been handicapped by having no assistance in handling the various pathological problems that are constantly arising. Plans are proposed for enlarging the work another year.

The Specialist submits the following summary of the year's work:

Number of addresses made	56
Number of persons in attendance	2,532
Number of conferences and visits to demonstrators	368
Number of miles traveled by rail	9,317
Number of miles traveled by automobile	4,637
Total number of miles traveled	13,954
Potato fields inspected for certified seed	12
Number of bushels recommended for certification	8,000

Potato Disease Survey in Co-Operation with U. S. Department.

Number of counties surveyed	23
Cards illustrating the disease distributed	23,000
Grocers and venders inspected	187

Gardens	321
Farms inspected	38
Exhibits at fairs	2
Number of persons engaged in survey, not counting county agents	3

Wheat Disease Survey, Especially for Take-All, Flag Smut, Black Stem Rust and the Nematode Disease.

Number of persons engaged in the survey, county agents not counted	7
Number of counties surveyed	19
Estimated number of miles traveled	8,000

Pea Root Rot Investigations.

Number of selections tested for resistance to root rot	417

Tomato Investigations and Demonstrations.

Spraying Experiments for Septoria:	
Number of acres involved, liquid and dust sprays	43
Number of plots used	95
Number of farmers co-operating	6
Spacing Experiments:	
Number of acres involved	6
Number of plots	7
Number of farmers co-operating	2
Wilt Resistant Tests:	
Number of varieties and strains tested	25
Number of acres involved	4
Wilt Resistant Demonstrations:	
Number of pounds of wilt resistant seed distributed free	76
Number of ounce and one-tenth ounce packages of wilt resistant seed distributed	2,140
Number of other States receiving seed from us for experimental purposes	10

FARMERS' INSTITUTES AND COMMUNITY SHORT COURSES.

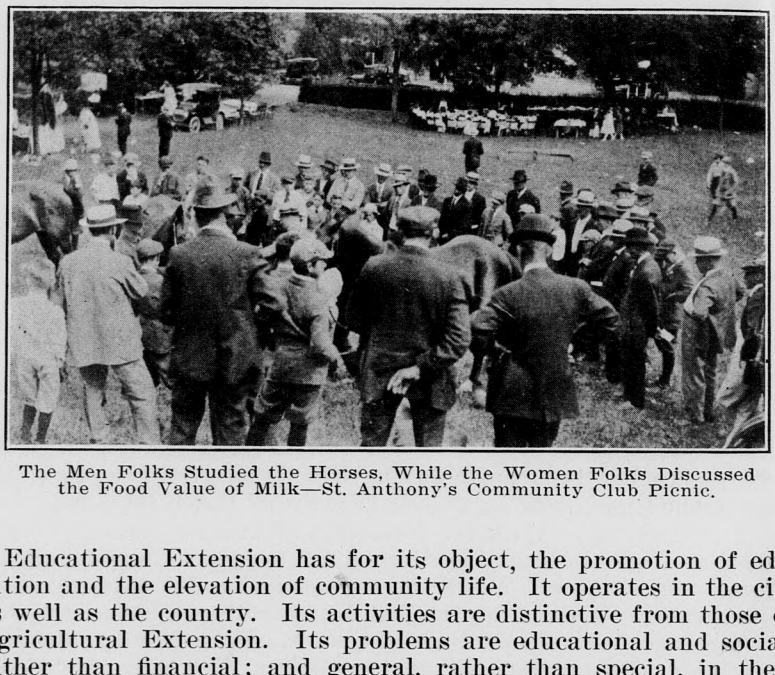
Reference has been made in the discussion of the various projects of the Specialists' assistance in farmers' institutes, community short courses, etc. With the formation of rural community clubs, there has been an increasing demand for these meetings during the winter and summer. While the appropriation for farmers' institutes was discontinued by the last Legislature, we have been compelled to meet this demand of the people. Moreover, the meetings have been more successful than ever before. No outside speakers have been secured, but the Specialists of the Service, with the assistance of other divisions of the Institution have been able to adjust their work to meet the engagements. A total of 173 institutes were held last winter and spring, with an attendance of 18,284 farmers and home makers. The rule has been to hold separate meetings of men and women at the same time and place. Joint sessions would be held for the discussion of general problems.

The Assistant Director has been in charge of the itinerary of the Specialists and the county agents, in co-operation with local

committees. These meetings have been of immense value and permit the Specialists to present their various lines of work effectively. The short courses, with two or three Specialists, including men and women, are very popular in various sections. It has been difficult to finance this work under our regular funds.

EDUCATIONAL EXTENSION.

Heretofore, the Extension Service of Maryland has been mainly devoted to the development of Agriculture, and to the improvement of domestic conditions in rural life. Its problems have been chiefly those of the farm.



The Men Folks Studied the Horses, While the Women Folks Discussed the Food Value of Milk—St. Anthony's Community Club Picnic.

Educational Extension has for its object, the promotion of education and the elevation of community life. It operates in the city as well as the country. Its activities are distinctive from those of Agricultural Extension. Its problems are educational and social, rather than financial; and general, rather than special, in their character. Its function is to give the masses of the people, in their homes, and in their home communities, the advantages and influence of the College faculty, the College library, and the other educational facilities of the College, and the help and encouragement that come from systematic supervision of their work.

This work has been inaugurated in order to comply with the request of the U. S. Bureau of Education, and other Governmental agencies for the promotion of general education. The work is supported from general State funds.

Strictly Educational.

Let it be clearly understood that Educational Extension, known in some States as University Extension, has nothing to do with advertising the College, adding to the number of students, or securing endowments. Its purpose is to make the College campus extend to the boundary lines of the State.

Comparatively few people have the opportunity to attend college. It is the privilege of the Extension Service to carry the College to the people.

There are young men and young women whose circumstances forced them to become wage earners at an early age. There are hundreds of workers in the different industries who realize the need of intellectual improvement. There are public school teachers who wish to add to their education and keep up with the times. There are boys and girls in our public schools who sorely feel the need of outside assistance in collecting data for speeches and debates. There are thousands of men and women who could receive valuable and pleasing instruction through lectures and pictures. To all of these people, the Educational Extension offers an unusual opportunity.

Co-ordination of Work.

The Educational Extension and Agricultural work of the College are not in competition with each other as college agencies, but are working together under one management, properly co-ordinated for the best results. This department of Extension work is under the supervision of Prof. C. S. Richardson.

Character of Work.

Educational Extension is generally classified under two heads:

1. Extension Teaching Service.
2. Public Welfare Service.

The teaching service provides for the formation of classes in a community; and the securing of suitable teachers: for correspondence courses; for lectures and pictures; and for all similar work.

The Public Welfare Service furnishes to groups of persons, societies, clubs, etc., a specialist to aid in the solution of group or community problems. It also furnishes special libraries and package libraries for public discussions.

Activities for the 1919-1920.

Owing to the present limited facilities, the Extension Service can offer for the year 1919-1920 the following projects only:

1. High School Public Discussion League.
2. Lectures.
3. Motion Pictures.
4. Correspondence Courses.

High School Public Discussion League.

The Discussion League has been specially commended by the U. S. Department of Educational Extension. A survey of the work of this League shows that in a number of States it has been of infinite benefit to the boys and girls of the public schools, by aiding and encouraging them in their discussions and debates, by furnishing data on selected subjects, and by standardizing the public speaking work of the schools through centralized supervision.

Through the agency of this Extension Service, and with the cooperation of the public school authorities, the High Schools of the State are formed into a Discussion League. Any commissioned or certified high school of Maryland is eligible to membership. The organization of the Discussion League has been effected, and has in its membership many of the most prominent high schools of the State.

It is generally recognized that the benefit of the Discussion League is not confined to the students, but the men and women of the different communities are also subject to its educational influences.

Subjects for discussion and debate have been furnished, and this Extension Service has supplied each school in the League with a package library. This package contains newspaper and magazine clippings, and information in other forms, making complete data on both the affirmative and negative sides of the different questions submitted.

Lectures.

Lectures of a technical, semi-popular and popular character have been furnished upon request to different organizations, granges, civic leagues, parent-teachers' associations, community clubs, schools, etc.

While the Extension Service cannot obligate to offer a lecture on every conceivable subject, it does offer to meet the demands of different groups of citizens so far as its present facilities will allow.

Motion Pictures.

This Service has an unusually large collection of motion picture films for distribution. In addition to the films belonging to the local Extension Service, the Bureau of Commercial Economics, of Washington, has selected the Educational Extension Service of Maryland as a distributing center for its bureau. This arrangement makes available to the public of Maryland the resources of the Bureau of Commercial Economics, with its almost unlimited supply of motion picture films. These films cover the field of agriculture, special industries, travel, scenery, etc.

Correspondence Instruction.

Education through correspondence has become so well-known, and its efficiency so well-established, that no explanation is necessary. Thousands of men and women in the United States have acquired a special or general educational training through correspondence work.

In these courses, the actual work of the College class rooms is taken to the homes and the boys and girls, men and women, may pursue the regular College Courses, and, under certain conditions, get credits just as if they were students at the Institution. They may also take special courses. An official certificate of the work done will be given to those who satisfactorily complete a course of study.

The correspondence work is now in progress, and the number of applications from citizens of the State for different courses will make it mandatory to enlarge the scope of this work, as it is both the function and desire of the Extension Service to meet the demands of the people.

CONCLUSION.

The work of the Service, as a whole, has been very successful, even under the difficult financial situation with which we have been faced this year. There is a splendid spirit of co-operation prevailing throughout the Service. Every effort has been made by the members of the Service to aid the divisions of the Institution of which we are a part, and to support in proper manner every effort of the U. S. Department of Agriculture, with which we are associated, to develop and promote the great farming interests of this nation.

The Service is grateful to the great body of farmers and home makers of the State who have co-operated so enthusiastically in the various lines of work undertaken. It is believed that the farmers of the State appreciate the unselfish devotion to duty, and the desire to be of practical service that animates every worker in the Extension Division. Every encouragement must be given to these workers under the present strain of high costs to remain in the work. There are many temptations to take up other lines of work.

The policy of the Service is to maintain, in a proper manner, as permanent a force of capable men and women as is possible. We believe that this State, this Institution and this Service, can afford to retain and maintain the very best caliber of men and women adapted to the work.

Every effort has been made by the Service in the expenditure of public funds to be economical and practical, and to secure a dollar's worth for every dollar expended. I believe a careful scrutiny of

the scope of work conducted will convince anyone with the needs of the Service. We believe the future for Extension work in Maryland presents great possibilities.

I am grateful to all my associates in the Service for the loyal support and co-operation they have given me in directing the work of the division.

We are all deeply appreciative of the able leadership and kindly support given at all times by Dr. A. F. Woods, the President of the Institution, and the officials of the States Relations Service, U. S. Department of Agriculture.

IN ACCOUNT WITH THE UNITED STATES AND STATE APPROPRIATIONS UNDER SMITH-LEVER EXTENSION ACT, 1918-1919.

		Smith-Lever Funds.		
		Total.	Federal.	State.
Dr.				
Unexpended balance from 1917-1918		.....	.....	.....
To receipts from the Treasurer of the United States and from State sources, as per appropriations for fiscal year ended June 30, 1919, under Act of Congress, approved May 8, 1914 (Smith-Lever Act)		$64,227.12	$37,113.56	$29,113.56
Cr. Abstract.				
By salaries	1	$32,670.63	$15,071.46	$17,599.17
Labor	2	113.91	113.91	.....
Printing and distribution of publications	3	3,196.86	2,206.36	990.50
Stationery and small printing	4	2,315.03	1,656.50	658.53
Postage, telegraph, telephone, freight and express	5	429.80	203.56	226.24
Heat, light, water, power	6	.....	.....	.....
Supplies	7	614.61	427.76	186.85
Library	8	44.58	27.87	16.71
Tools, machinery, appliances	9	99.38	99.38	.....
Furniture and fixtures	10	3,645.38	3,137.00	508.38
Scientific apparatus and specimens	11	882.99	321.32	561.67
Livestock	12	.....	.....	.....
Traveling expenses	13	20,162.87	13,798.44	6,364.43
Contingent expenses	14	51.08	50.00	1.08
Unexpended balance		.....	.....	.....
Total		$64,227.12	$37,113.56	$27,113.56

The above is a true copy from the books of the Treasurer.

M. F. MCKENNEY, *Accountant.*

SUMMARY STATEMENT OF EXPENDITURES, BY PROJECTS, SHOWING SOURCES OF FUNDS USED FOR EXTENSION WORK.

Projects.	Total.	Smith-Lever.		College.	State.	County.	Other.
		Federal.	State.				
Administration	$26,405.34	$15,887.88	$8,477.86	.....	$2,039.60	.....	.....
Printing and distributing of publications.	3,196.86	2,206.36	990.50	.....	.....	.....	.....
County agents	36,538.97	4,386.96	2,044.88	.....	26,107.13	$4,000.00	.....
Home economic and girls' clubs	18,934.11	6,215.58	917.28	.....	7,708.25	4,093.00	.....
Extension schools and farmers' courses	.....	.....	.....	.....	.....	.....	.....
Boys' club work	5,582.19	4,052.19	1,530.00	.....	.....	.....	.....
Girls' club work	.....	.....	.....	.....	.....	.....	.....
Agronomy	3,049.60	.....	2,869.60	.....	200.00	.....	.....
Animal industry	1,090.67	.....	1,090.67	.....	.....	.....	.....
Horticulture	3,628.03	100.00	3,028.03	.....	500.00	.....	.....
Dairying	1,796.39	247.68	1,232.98	.....	315.73	.....	.....
Rural organization and marketing	1,649.43	90.00	959.43	.....	600.00	.....	.....
Poultry extension	3,012.08	100.00	2,912.08	.....	.....	.....	.....
Farm machinery	3,361.91	2,250.00	1,080.25	.....	31.66	.....	.....
Forestry	161.52	161.52	.....	.....	.....	.....	.....
Plant diseases	5,235.73	896.15	.....	.....	4,359.58	.....	.....
Entomology	4,281.32	539.24	.....	.....	3,742.08	.....	.....
Total expenditures	$117,924.15	$37,113.56	$27,113.56	.....	$45,604.03	$8,093.00	.....

SUMMARY STATEMENT, BY PROJECTS, SHOWING CLASSIFICATION OF EXPENDITURES FROM ALL FUNDS USED FOR EXTENSION WORK (EXCEPT THOSE FROM U. S. DEPARTMENT OF AGRICULTURE).

SUMMARY STATEMENT, BY PROJECTS, SHOWING CLASSIFICATION OF EXPENDITURES FROM ALL FUNDS USED FOR EXTENSION WORK (EXCEPT THOSE FROM U. S. DEPARTMENT OF AGRICULTURE), FISCAL YEAR ENDING JUNE 30, 1919.

Items of Expense.	Total.	Administration.	Printing and Distribution of Publications.	County Agents.	Home Economics.	Extension Schools and Farmers' Courses.	Boys' Club Work.	Girls' Club Work.	Agronomy.
Salaries	$70,629.10	$16,783.96	.....	$25.846.91	$10,447.63	.....	$1,870.00	.....	$2,000.00
Labor	444.73	103.36	.....	7.55	3.00	.....	.....	.....	.....
Printing and distribution of publications	3,196.86	.....	$3,196.86	.....	.....	.....	.....	.....	.....
Stationery and small printing	2,328.10	2,325.85	.....	.....	.....	.....	.....	.....	.....
Postage, telegraph, telephone, freight and express	1,116.90	752.99	.....	.60	34.78	.....	3.83	.....	2.35
Heat, light, water and power	.....	.....	.....	.....	.....	.....	.....	.....	.....
Supplies	961.00	714.34	.....	.....	78.01	.....	.....	.....	.65
Library	90.60	44.58	.....	21.92	20.00	.....	.....	.....	.....
Tools, machinery and appliances	141.04	99.58	.....	.....	.....	.....	.....	.....	.....
Furniture and fixtures	3,691.39	3,681.39	.....	.....	.....	.....	.....	.....	.....
Scientific apparatus and specimens	891.40	882.99	.....	.....	.....	.....	.....	.....	.....
Livestock	.....	.....	.....	.....	.....	.....	.....	.....	.....
Traveling expenses	34,300.90	981.50	.....	10,661.99	8,269.83	.....	3,708.36	.....	1,046.60
Contingent expenses	131.93	35.00	.....	.....	80.86	.....	.....	.....	.....
Total expenditures	$117,024.15	$26,405.34	$3,196.86	$36,538.97	$18,934.11	.....	$5,582.19	.....	$3,049.60

SUMMARY STATEMENT, BY PROJECTS, SHOWING CLASSIFICATION OF EXPENDITURES FROM ALL FUNDS USED FOR EXTENSION WORK (EXCEPT THOSE FROM U. S. DEPARTMENT OF AGRICULTURE), FISCAL YEAR ENDING JUNE 30, 1919—*Continued.*

Items of Expense.	Animal Industry.	Horticulture.	Dairying.	Rural Organization.	Poultry.	Farm Machinery.	Forestry.	Plant Diseases.	Entomology.
Salaries	$600.00	$2,200.00	$600.00	$749.97	$2,000.00	$2,250.00	.....	$3,125.03	$2,155.60
Labor	.....	.....	315.73	.....	.....	.....	.....	.....	15.09
Printing and distribution of publications	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stationery and small printing	.....	.....	.....	.....	.....	2.25	.....	.....	.....
Postage, telegraph, telephone, freight and express	1.99	14.34	4.10	.64	4.60	.30	.....	86.58	209.80
Heat, light, water and power	.....	.....	.....	.....	.....	.....	.....	.....	.....
Supplies	.....	.....	.....	.....	.....	6.74	.....	58.91	102.35
Library	.....	.....	.....	.....	.....	.....	.....	4.10	.....
Tools, machinery and appliances	.....	.....	.....	.....	.....	31.66	.....	10.00	.....
Furniture and fixtures	.....	.....	.....	.....	.....	.....	.....	.....	10.20
Scientific apparatus and specimens	.....	.....	.....	.....	.....	.....	.....	.....	8.41
Livestock	.....	.....	.....	.....	.....	.....	.....	.....	.....
Traveling expenses	487.60	1,413.69	876.56	898.82	1,007.48	1,070.96	161.52	1,951.11	1,764.88
Contingent expenses	1.08	.....	.....	.....	.....	.....	.....	.....	14.99
Total expenditures.	$1,090.67	$3,628.03	$1,796.39	$1,649.43	$3,012.08	$3,361.91	$161.52	$5,235.73	$4,281.32

COUNTY HOME DEMONSTRATION AGENTS.

.....	Allegany	Cumberland
Mrs G. Linthicum	Anne Arundel	Annapolis
Bertha E. Ide	Baltimore	100 N. Payson, Balto.
.....	Calvert	Prince Frederick
Mrs. Edith G. Norman	Caroline	Denton
Rachel L. Everett	Carroll	Westminster
Esther Wotring	Cecil	Elkton
Julia E. Etchison	Charles	La Plata
Frances G. Stuart	Dorchester	Cambridge
.....	Frederick	Frederick
.....	Garrett	Oakland
Blanche Gittinger	Harford	Belair
Mrs. Nell C. Lawson	Howard	Ellicott City
Susan V. Hill	Kent	Chestertown
Katherine Cowsill	Montgomery	Rockville
Ellen L. Davis	Prince George's	Upper Marlboro
Mary L. Byrn	Queen Anne's	Centreville
M. Louise Mills	Somerset	Princess Anne
Katherine Murwin	St. Mary's	Leonardtown
Mrs. O. K. Walls	Talbot	Easton
Sue W. Frick	Washington	Hagerstown
Olive C. Mitchell	Wicomico	Salisbury
Lucy J. Walter	Worcester	Snow Hill
Leah D. Woodson (col.)	Charles & St. Mary's	La Plata

BALTIMORE CITY WORKERS.

Mrs. Adelaide Derringer	Administration Bldg.	Baltimore, Md.
Gwynneth Gminder	1904 Eastern Ave.	Baltimore, Md.

ONLY THE BULLETINS AND CIRCULARS NAMED BELOW ARE AVAILABLE FOR DISTRIBUTUION.

These will be sent free of charge to any address upon application.

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No. 18. May, 1919—Maryland Invites You.
No. 19. April, 1919—Boys' Potato Club Lessons.
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AVAILABLE EXTENSION CIRCULARS.

No.
1. Onions.
2. Irish Potatoes.
4. Strawberries.
5. Value of Milk as a Food.
8. Planning and Serving Meals.
9. War Breads { Corn Meal Yeast. / Oat Meal. / Potato Yeast.
10. The Corn or Tobacco Root Web Worm.
13. The Melon Aphis.
14. Poison Sprays or Dust
15. { Oat Meal Bread. / Corn Cakes. / Boston Brown Bread. / Steamed Date Pudding. / Lemon Sauce.
16. Feeding for Eggs in Winter.
22. Thoughts for Cattle Breeders.

No.
24. Alfalfa in Maryland.
25. Lime in Maryland.
26. Garden Seeds.
27. Farm Animals in War Times.
28. Garden Fertilizers.
31. Meat Substitutes.
32. Cottage Cheese.
33. Pickles.
34. Salads.
35. Homemade Soap.
36. A Homemade Silo.
37. Canning Corn.
38. Status of Beekeeping in Maryland.
39. Corn Cultivation.
40. Incubation.
41. Brooding and Feeding Young Chicks.
42. Barley Muffins.
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.....	Frederick	Frederick
.....	Garrett	Oakland
Blanche Gittinger.....	Harford	Belair
Mrs. Nell C. Lawson.....	Howard	Ellicott City
Susan V. Hill.....	Kent	Chestertown
Katherine Cowsill.....	Montgomery	Rockville
Ellen L. Davis.....	Prince George's.....	Upper Marlboro
Mary L. Byrn.....	Queen Anne's.....	Centreville
M. Louise Mills.....	Somerset	Princess Anne
Katherine Murwin.....	St. Mary's.....	Leonardtown
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